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LETTER OF TRANSMITTAL

Date:	5/29/97	Job No.:	94039.00 T1
Attention:	Joseph J. Nowak		
Re:	Hexcel Corporation		
	Lodi Borough, Bergen County, NJ		
	ISRA Case No. 86009		

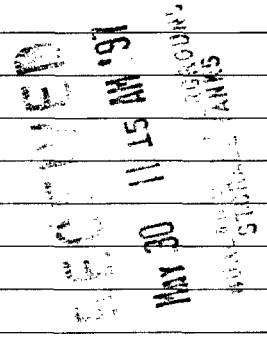
To: NJDEP-BEECRA
401 E. State Street, CN-432
Trenton, NJ 08625

WE ENCLOSE THE FOLLOWING:

VIA: ☐ Courier /Hand Delivered ☒ Overnight Express ☐ First Class Mail ☐

COPIES	DATE	DESCRIPTION
3	5/29/97	Progress report of Hexcel Corporation's recent ISRA activities
1	11/12/96	Envirotech Research, Inc. laboratory results report, separately bound, to accompany the 5/29/97 progress report.

Remarks:



COPY TO: A. William Nosil (w/o lab report)
Edward A. Hogan (w/o lab report)
James Higdon (w/o lab report)

SIGNED: Marjorie A. Piette
Marjorie A. Piette

If enclosures are not as noted, kindly notify us at once.

GEO Engineering

150 Mineral Spring Drive
Dover, New Jersey 07801
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May 29, 1997

Joseph J. Nowak
New Jersey Department of Environmental Protection
Bureau of Environmental Evaluation and Cleanup Responsibility Assessment
401 East State Street, CN 432
Trenton, NJ 08625

SUBJ: ***Hexcel Corporation***
Lodi Borough, Bergen County, New Jersey
ISRA Case No. 86009
GEO Project No. 94039

Dear Mr. Nowak:

On behalf of Hexcel Corporation (Hexcel), the following is the progress report of activities carried out during January, February and March of 1997. This quarterly report is prepared in accordance with the Industrial Site Recovery Act (ISRA) requirements for the former Hexcel facility in Lodi, New Jersey. Also included in this report are responses to the New Jersey Department of Environmental Protection (NJDEP) letter of March 12, 1997. Appendix A provides an item-by-item listing of Hexcel's responses, cross-referenced to the text of this progress report. A copy of the NJDEP letter is also included in the appendix.

The following topics are discussed in this progress report:

1. Regional Context

   a) Soil Evaluation
   b) Ground Water Evaluation
   c) Off-Site Investigation

2. Ground Water/DNAPL/LNAPL Monitoring

   a) Quarterly Monitoring
   b) Monthly Monitoring

3. Product Recovery Program

   a) DNAPL Recovery
   b) LNAPL Recovery

4. Ground Water Treatment System

   a) Evaluation and Testing of Ground Water Recovery and Treatment System
   b) Treatment and Disposal of Basement Seepage Water and Ground Water

5. Confining Layer Near MW-26

6. Installation of Wells

7. Sediment Sampling

8. NJDEP Site Visit

9. Waste Disposal Documentation

10. Schedule and Cost Estimates

1. Regional Context

Regional information is being developed, by others, that will affect Hexcel's remedial approach. The area is under serious consideration by the Town of Lodi and the NJDEP for Brownfields redevelopment. Also, the neighboring Napp Technologies, Inc. (Napp) facility is undergoing an ISRA investigation; the results of this investigation are not yet available. As discussed and agreed at Hexcel's recent meeting with the NJDEP, the information that is being developed for this neighborhood and the plans that are being considered for the area will affect Hexcel's remedial planning. Hexcel, therefore, must wait for regional information before it can effectively plan the remediation at the Hexcel property.

Hexcel foresees that remediation of its property needs to be compatible with the actions of others in the area and needs to support a regional solution for the whole area that will allow redevelopment. The environmental issues at the Hexcel property relate not simply to Hexcel's use of the property, but also to the historical development and use of the larger area in which it is located. In regard to future use of the property, we understand that the Town of Lodi has been conferring with the NJDEP and that both parties are in agreement that a Brownfields redevelopment of this area is desirable and likely.

Hexcel needs to develop its own long-term remedial program within the context of the region's environmental and development issues and plans. Until the additional information has been developed on historical data, neighboring cleanups, and future site

usage, Hexcel will have insufficient information to develop its long-term remedial strategy. However, during this interim time, Hexcel will continue its existing monitoring program, organize its own historical data, and review regional data and plans as they become available. Hexcel has also reached an agreement with Fine Organics. Hexcel has purchased the property and Fine Organics has begun to phase out its operations in preparation for vacating the property. Hexcel will then have more options for long-term remediation actions once regional information has been developed and Hexcel has the regional context in which to plan its cleanup.

1a. Soil Evaluation

While awaiting regional information, Hexcel will organize its historical soil data in preparation for evaluation of the data within the context of regional concerns. Hexcel will prepare a report that tabulates, organizes, and summarizes the results of historical soil data collected at the site. This report will be submitted to the NJDEP, as reflected in the estimated schedule presented later in this report. Napp soil data, which reasonably relates to Hexcel's efforts will be incorporated in our database as it becomes available.

1b. Ground Water Evaluation

As with Hexcel's historical soil results, Hexcel will also prepare a report organizing and summarizing its ground water data. This, too, will be submitted to the NJDEP. An estimated schedule of this reporting is included in the table at the end of this report.

1c. Off-Site Investigation

Hexcel is aware that Napp has installed and sampled ground water monitor wells on the Napp property. When those ground water sampling data are available, Hexcel will evaluate whether there is a need for additional monitoring by Hexcel on the Napp property as the NJDEP has requested. Hexcel is also awaiting additional information from Napp's reporting to the NJDEP before evaluating the need for addressing the off-site soil testing referenced in the NJDEP's March 12, 1997 letter.

We have received permission to access the U.S. Army Corps of Engineers (Army Corps) monitor well MW-08 which is located across the Saddle River from the Hexcel site. We need to confirm permission in writing from the property owner and coordinate access with the Army Corps. We anticipate we will be able to obtain access shortly.

2. Ground Water/DNAPL/LNAPL Monitoring

This section includes the results of quarterly monitoring performed in January 1997 and monthly monitoring performed in February and March 1997. Modifications to the NJDEP-approved "Groundwater/DNAPL/LNAPL Monitoring Plan" prepared by Killam Associates were presented in our progress report dated October 24, 1994. The modifications were approved by the NJDEP in its June 12, 1995 letter. Sections 2a and 2b provide details for quarterly and monthly monitoring, respectively.

2a. Quarterly Monitoring

Hexcel conducted quarterly ground water elevation, DNAPL and LNAPL monitoring on January 14, 1997 in accordance with the monitoring plan. Appendix B contains figures and tables developed from the quarterly monitoring. These are discussed below. Results of the quarterly monitoring are tabulated in Table 1. Figures 1 and 2 illustrate shallow and deep ground water elevation contours respectively. Contour Map Reporting Forms are included for each of the contour maps. Table 2 contains a summary of well construction data to accompany the Contour Map Reporting Form for Figure 1.

2b. Monthly Monitoring

In addition to the quarterly monitoring conducted in January, Hexcel conducted monthly DNAPL and LNAPL monitoring on February 4 and March 7, in accordance with the monitoring plan and modifications approved by the NJDEP in its June 12, 1995 letter. Additionally, the following modifications were made to the monthly monitoring plan this quarter:

- RW1-1 and RW7-5: These wells were removed from the monthly monitoring program in February subsequent to non-detection of DNAPL for three consecutive months in November and December 1996 and January 1997. The product-interface meter probe did not register presence of DNAPL in the well and visual inspection of the probe also indicated the absence of DNAPL.

Results for February and March monthly monitoring are provided in Tables 3 and 4 located in Appendix C.

Hexcel will continue to modify the monthly monitoring by the addition or deletion of wells in accordance with the approved plan.

3. Product Recovery Program

This section includes results for the temporary product recovery program currently being implemented at the site. This product recovery program, consisting of manually recovering product from affected wells on a weekly basis, was initiated on October 20, 1994. After one month, the program's frequency was reduced to twice a month due to a reduction in the quantity of product recovered. Product recovery continued at the rate of at least twice a month through the week of June 19, 1995. In accordance with the NJDEP's June 12, 1995 letter, weekly product recovery was resumed the week of June 26, 1995.

In its May 23, 1996 letter, the NJDEP approved modifications to the weekly product recovery program for LNAPL and DNAPL. The modifications proposed by Hexcel changed the criteria for inclusion of wells in the weekly product recovery program. The modifications were communicated to the NJDEP in a letter dated September 21, 1995 and also in the October 1995 progress report. According to the modifications, any well which has no measurable recovery for three consecutive weekly recovery rounds will be moved to monthly monitoring and recovery. For the purposes of product collection, quantities greater than 0.1 gallon (approximately 1 cup) are considered to be measurable.

Note that in its letter dated March 12, 1997, the NJDEP asked for clarification of the procedures for DNAPL recovery and monitoring when DNAPL is observed on the probe but no thickness of DNAPL is measured. Hexcel has tried numerous times in the past to recover DNAPL in these circumstances, without success. Based on our experience, if the product interface meter does not signal the presence of product, then it is not possible to pump a significant amount of DNAPL from the well, even when DNAPL is observed on the probe. Therefore, DNAPL recovery is usually attempted only when there is a signal from the product interface meter indicating the presence of product.

3a. DNAPL Recovery

Approximately 1.4 gallons of DNAPL was recovered from MW-6 and 0.2 gallons of DNAPL was recovered from CW-16 during the first quarter of 1997. DNAPL recovery during this quarter is summarized in Table 5, located in Appendix D.

3b. LNAPL Recovery

In accordance with the approved modifications to the product recovery program, weekly product recovery for LNAPL was not performed during the first quarter of 1997 because recoverable quantities of LNAPL have not been indicated in any of the wells

since September 1996. LNAPL recovery is summarized in Table 6, located in Appendix D.

4. Ground Water Treatment System

This section includes documentation of Hexcel's efforts regarding evaluation and operation of the existing ground water treatment system. The following subsections provide the details.

4a. Evaluation and Testing of Ground Water Recovery and Treatment System

Hexcel performed pilot tests on the ground water recovery and treatment system in the fourth quarter of 1996. Data collected from the recovery system portion of the pilot test indicate that the current recovery well configuration and equipment are inadequate to obtain hydraulic control of the ground water. Furthermore, the limitations of the recovery system and low well yields would make it ineffective to add more recovery wells to the current system. The water generated from the pilot test of the recovery system was used to run a pilot test of the treatment system. Results from the treatment system pilot test indicate that the current treatment system is able to remove the contaminants from the ground water to a level acceptable for discharge to the sewer.

In addition to the pilot tests, subsurface information was collected from Geoprobe borings performed in December 1995. Geoprobe boring logs are included in Appendix E and the boring locations are shown in Figure 3 of Appendix E. Additionally, soil samples were collected from various Geoprobe boring locations and analyzed for geotechnical parameters to obtain a better knowledge of the soil properties. The laboratory data sheets for this testing are also included in Appendix E. The locations and depths of soil samples and the test parameters are provided in the boring logs.

As seen from the three cross-sections located in Figures 4 to 7 of Appendix F, there are four main subsurface soil formations: Layer A - Fill, Layer B - Fine grained fluvial deposits, Layer C - Coarse grained fluvial deposits, and Layer D - Lake or slow moving water deposits. These layers are discussed further in the following subsection, "Subsurface Information".

Subsurface Information

Boring logs from the Geoprobe borings indicate that the upper subsurface formation consists mainly of fill and fluvial deposits overlying a fine grained confining layer. The uppermost layer of the subsurface is fill consisting of sand, gravel, small boulders, organic matter and cinders. The fill ranges in thickness from 4 feet to 10 feet over the site. Underlying the fill is a formation characteristic of natural fluvial deposits.

The fluvial deposits at the site have two distinct layers. The top layer, immediately under the fill, consists of a fine sand. The layer underlying the fine sand consists of gravel, sand and silt. Underlying the fill and fluvial deposits is a layer of fine grained sediments. Grain-size analysis of this layer indicates that these sediments are mainly silt with trace amounts of clay. This layer acts as a confining layer and the tested average permeability of this material is 4.5×10^{-6}cm/sec. This permeability value agrees with the published range of permeability for silt and indicates that this formation restricts ground water flow. The depth to the confining layer from ground surface has been found to range from 7 feet to 16 feet over the site, and the thickness of the layer varies from 4 feet to 15 feet. The silt layer is known to exist from the western property boundary (along the Saddle River) and extends eastward towards Main Street. However, insufficient information is available to establish the presence or absence of the silt layer near the eastern property boundary and beyond it.

Pump Test Results

Aquifer characteristics were estimated from pump test data collected during November and December 1996. Pump tests were performed on wells CW-11, CW-18, CW-21, and CW-5 with a shallow well jet pump and water levels were measured with pressure transducers and water level probes. Drawdown and recovery data were collected during each pump test at the pumping wells and at least one observation well. The data collected from observation wells were plotted and analyzed by the Jacob and Theis methods. Table 7 (below) summarizes the pumping and observation wells with the respective results from the Jacob and Theis methods. The plots and calculations are provided in Appendix G. Two separate pump tests were performed on well CW-18, Test A and Test B. No aquifer characteristics were calculated for the pump test of CW-5 because no significant drawdowns were observed in the observation well. According to Powers (1981)[1], due to slow storage release, transmissivities calculated by the Jacob and Theis methods from time-drawdown data in an unconfined aquifer are two to three times higher than the actual values. Therefore, the actual permeability values calculated from these curves are more likely in the range of 10^{-3} cm/sec. Powers (1981)[1] also indicates that coefficients of storage calculated by the Jacob and Theis methods for unconfined aquifers can be erroneous by orders of magnitude.

[1] Powers, J. Patrick, *Construction Dewatering - A Guide to Theory and Practice,* John Wiley & Sons, Inc., 1981.

Table 7: Pump Test Results

			Jacob Method					
Pumping Well	Pumping Rate (gpm)	Observation Well	Transmissivity-T (gpd/ft)		Permeability-K (cm/sec)		Storativity-S	
			Drawdown	Recovery	Drawdown	Recovery	Drawdown	Recovery
CW-11	7.0	CW-10	1795	--	1.3E-02	--	1.5E-02	--
CW-18 (Test A)	1.75	CW-17	1553	1257	1.1E-02	9.1E-03	9.8E-04	1.2E-03
CW-18 (Test B)	3.2	CW-17	1324	1010	9.6E-03	7.3E-03	1.1E-03	8.9E-04
CW-21	7.0	MW-28	3977	3868	2.9E-02	2.8E-02	3.5E-03	2.9E-03

			Theis Method					
Pumping Well	Pumping Rate (gpm)	Observation Well	Transmissivity-T (gpd/ft)		Permeability-K (cm/sec)		Storativity-S	
			Drawdown	Recovery	Drawdown	Recovery	Drawdown	Recovery
CW-11	7.0	CW-10	802	--	5.8E-03	--	2.0E-02	--
CW-18 (Test A)	1.75	CW-17	1337	955	9.7E-03	6.9E-03	1.4E-03	1.8E-03
CW-18 (Test B)	3.2	CW-17	1146	764	8.3E-03	5.5E-03	1.4E-03	1.2E-03
CW-21	7.0	MW-28	2674	3085	1.9E-02	2.2E-02	4.9E-03	3.9E-03

Notes: -- The well did not recover sufficiently to produce recovery plots

Recovery System Pilot Test Results

The data collected from the pilot test of the recovery system indicate that the current recovery system and recovery well configuration are inadequate to obtain hydraulic control. Not only does the system not obtain hydraulic control, but only approximately 2% of the area with contaminated ground water was influenced by the seven hour operation of the recovery system. Figure 8 (Appendix F) shows the limited area influenced (greater than or equal to 0.5 feet drawdown) by the operation of the recovery system. The poor performance of the recovery system can be attributed to inadequate pumping rates due to equipment limitations and low well yields. Because of the equipment limitations and the heterogeneity of the subsurface, the addition of recovery wells to the system would most likely produce inadequate results. Figures 9 to 11 (Appendix F) show hydraulic cross-sections along the center lines of the recovery wells with the static water levels prior to pumping and water levels after seven hours of pumping in recovery and observation wells. These figures show that during the operation of the recovery system, contaminated ground water will bypass the recovery wells.

The ground water recovery system pilot test was performed during September and October 1996. During this time the recovery system was operated continuously for a period of seven hours. Water levels were measured in the recovery wells and several observation wells prior to and during the operation of the recovery system. The recovery wells in the western portion of the site are CW-9, CW-11, CW-15, CW-18, and CW-21. The recovery wells in the eastern portion of the site are CW-3 and CW-5. Pumping rates from the recovery system ranged between less than 0.25 gpm and 1.5 gpm. A total of approximately 1,400 gallons of ground water were pumped into tank H-2 of the treatment

system. Maximum measured drawdowns in the recovery wells ranged from 0.15 feet to 4.38 feet and maximum measured drawdowns in the observation wells ranged from 0.00 feet to 0.55 feet. More specifically, recovery wells CW-3 and CW-15 yielded only about 0.25 gpm, with drawdowns around four feet with no significant effect observed in surrounding wells. Based upon specific capacity testing during pump tests on the recovery wells, wells CW-11, CW-18, CW-21, and CW-5 will yield significantly more water than the recovery system is capable of pumping. Table 8, below, shows a more detailed listing of the recovery and observation wells along with maximum sustained pumping rates and maximum drawdowns.

Table 8: Summary of Recovery and Observation Wells with Respective Drawdowns and Pumping Rates During Recovery System Pilot Test

Well Identification	Maximum Drawdown (ft)	Maximum Pump Rates (gpm)
CW-7	0.3	
CW-8	0.51	
CW-9	**1.74**	**1.50**
CW-10	0.24	
CW-11	**0.60**	**1.50**
CW-12	0.55	
CW-13	0.19	
CW-14	0.09	
CW-15	**4.29**	**0.25**
RW 7-10	0.17	
CW-16	0.15	
MW-8	0.07	
CW-17	0.21	
CW-18	**0.37**	**0.40**
RW 7-6	0.09	
CW-19	0.22	
CW-20	0.12	
CW-21	**0.15**	**0.40**
CW-22	0.05	
CW-2	0.00	
CW-3	**4.38**	**<0.25**
CW-4	0.00	
MW-17	0.07	
CW-5	**0.64**	**0.75**
MW-22	0.02	

Note: Bold Print Indicates Pumping Wells

Prior to the seven hour operation of the recovery system, each recovery system leg was optimized to obtain maximum pumping rates. The recovery system is a Pulse Pump system manufactured by QED Environmental Systems, Inc. In summary, the system uses a pneumatic pulse from an air compressor to displace ground water from an in-well pump through long lengths of piping to the treatment system collection tank (Tank H-2). The pneumatic pulse is controlled by a Pulse Sender which has two timer adjustments, a discharge timer and a refill timer. The discharge timer controls the duration of the pneumatic pulse. The refill timer controls the duration that the pneumatic pulse is off to

allow the refill of ground water into the pump. The recovery system has three control units (Pulse Senders) that control the seven recovery wells on site. Recovery wells CW-9, CW-11, and CW-15 are controlled by a unit located in Building 1, recovery wells CW-18 and CW-21 are controlled by a unit in Building 2, and recovery wells CW-3 and CW-5 are controlled by a unit in Building 4. The refill and discharge timer settings were appropriately adjusted to deliver the maximum possible pumping rates from the recovery wells. A procedure prescribed by QED Environmental System, Inc. was followed during the optimization of the recovery system.

Treatment System Pilot Test Results

The data collected from the treatment system operation indicate that the current treatment system is capable of removing the contaminants from pumped ground water to a level acceptable for discharge to the Passaic Valley Sewerage Commissioners'(PVSC) sewer. The data show that the majority of volatile organics were removed after treatment by Air Stripping Tower 1. Furthermore, PCBs were removed to a non-detect level after Carbon Unit 1. The total removal efficiency of the treatment system for volatile organics and PCBs was greater than 99.9%. Figure 12 (Appendix F) shows the concentrations of total volatile organics (VOs) and polychlorinated biphenyls (PCBs) at each location that was sampled during the treatment system operation. The full laboratory report is enclosed as a separately bound package.

The 1,400 gallons of ground water generated from the operation of the recovery system were treated by the on-site treatment system on October 22, 1996. To assess the performance of the treatment system, samples were collected for volatile organics and PCBs from various locations in the treatment system during operation. Additionally, tank H-2 was also sampled for Priority Pollutant Base/Neutral and Acid Extractable Organics + 25 (BNA+25), Iron (Fe), Phenols, and Total Suspended Solids (TSS). Pursuant to the permit to discharge to the sewer system, tank H-1 was also sampled for Biochemical Oxygen Demand (BOD) and TSS (See laboratory report for the results).

4b. Treatment of Basement Seepage Water and Ground Water

Basement seepage water continues to be treated on-site and discharged to the Passaic Valley Sewerage Commissioners (PVSC) sewer line.

5. Confining Layer Near MW-26

In response to the NJDEP's March 12, 1997 letter, Hexcel reviewed the boring logs for several wells and found strong evidence that the confining layer is present below MW-26. Wells MW-3, MW-5, MW-13, and MW-7 are located roughly to the south, east, north, and west, respectively, of MW-26. The elevation of the bottom of MW-26 is

10.2 feet NGVD according to the cross section that the NJDEP referenced from the August 1991 progress report. Boring logs indicate that the bottom of the confining layer was encountered at the following elevations at locations surrounding MW-26:

Location	Elevation of bottom of confining layer
MW-3	5.8
MW-5	9.0
MW-7	3.2
MW-13	4.1

The confining layer was encountered at each of the wells surrounding MW-26 at an elevation lower than the elevation of the bottom of well MW-26. Therefore, further vertical delineation in this location is not needed.

6. Installation of Wells

Hexcel will (1) replace well MW-32 and (2) install a deep well in the vicinity of MW-1.

1) MW-32 was destroyed by a snow plow operation in January 1996 and Hexcel's position was that there were sufficient wells in its vicinity that it need not be replaced. However, the NJDEP's position is that it is important to replace MW-32 and Hexcel will do so when it is mobilizing for installation of another well.

2) A well will be installed just above bedrock in the vicinity of MW-1. This will allow Hexcel to develop more information about the confining layer in that area.

7. Sediment Sampling

Hexcel will evaluate the depositional environment of the Saddle River in the vicinity of the outfall located approximately 900 feet downstream of the Hexcel facility and then will collect samples. The sediment samples will be collected in accordance with the current NJDEP technical requirements and guidance for sediment sampling.

8. NJDEP Site Visit

The NJDEP has requested in its March 12, 1997 letter that a site inspection be scheduled for the Hexcel facility. As we have discussed with the NJDEP by telephone, this site visit will be arranged at the convenience of the NJDEP case manager.

9. Waste Disposal Documentation

There was no disposal from the site in the first quarter of 1997 and, therefore, there is no disposal documentation for the months of January, February and March 1997.

10. Schedule and Cost Estimates

Table 9 located in Appendix H presents an updated estimate of the schedule of remaining remedial activities. There has been no change to date in the estimate of cleanup costs.

We will continue to submit quarterly progress reports according to the schedule. Please call us if you have any questions regarding the above.

Sincerely,

GEO ENGINEERING, INC.

Marjorie A. Piette
Project Manager

MAP/avm
Enclosures
cc A. William Nosil
Edward Hogan, Esq.
James Higdon

Appendix A

NJDEP Letter

- **Checklist of Responses to Items in NJDEP March 12, 1997 Letter**
- **NJDEP March 12, 1997 Letter**

Appendix A

Checklist of Responses to Items in NJDEP March 12, 1997 Letter

1. As discussed in Section 1 of this May 29, 1997 progress report, Hexcel needs to develop its long-term remedial program within the context of the region's environmental and development issues and plans. This was also discussed and agreed at Hexcel's April 4, 1997 meeting with the NJDEP. Hexcel will, in the meantime, prepare a report on its historical soil data (See Section 1.a).

2. Hexcel is awaiting additional information from Napp's reporting to the NJDEP before evaluating the need for addressing off-site soil testing (See Section 1.c).

3. No response needed.

4. Hexcel will conduct additional stream sediment sampling (See Section 6).

5. Procedures for DNAPL recovery are described and clarified in Section 3.

6. When Napp's ground water sampling data are available, Hexcel will evaluate whether there is need for any additional monitoring by Hexcel on the Napp property (See Section 1.c).

7. Hexcel proposes the installation of a deep overburden well in the vicinity of MW-1 in Section 6.

8. Based on the available data, a clay layer is present in the location of MW-26 and vertical delineation in this location is not needed (See Section 4.a for a full discussion).

9. Hexcel will replace MW-32 (See Section 5).

10. Hexcel anticipates gaining access to the Army Corps of Engineer's well across the Saddle River fairly soon (See Section 1.c).

11. Hexcel will submit to the NJDEP a detailed evaluation of ground water sampling results as requested (See Section 1.b).

12. No response needed.

13. Hexcel has contacted the case manager and will schedule a site inspection at the case manager's convenience (See Section 7).

14. The revised estimate of the schedule of remaining remedial activities is included in this report (See Section 9). Please note that Hexcel had obtained an extension of time for submittal of this schedule.

15. No response needed.

16. No response needed.

17. No response needed.

18. No response needed.

19. There have been no changes to the cost estimate (See Section 9).

Appendix B

Quarterly Monitoring

Table 1. Quarterly Water Level/Product Thickness Measurements (1/14/97)

Table 2. Well Construction Data

Contour Map Reporting Form to accompany Figure 1

Figure 1. Shallow Ground Water Elevation Contours on 1/14/97

Contour Map Reporting Form to accompany Figure 2

Figure 2. Deep Ground Water Elevation Contours on 1/14/97

TABLE 1: QUARTERLY WATER LEVEL/PRODUCT THICKNESS MEASUREMENTS (1/14/97)
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/Quartrly.xls
Entered by: SG Checked by: RMS

Well ID	Type	Depth to Water (1/14/97)	Depth to Product		Product Thickness	Depth to Bottom (1/14/97)	Elevation Top of Casing	Water Elevation	Well Construction (all 4" diameter unless otherwise noted)		
			DNAPL	LNAPL					Type	Casing	Comments
RW Series:											
RW1-1	shallow	5.20	--	--	--	14.31	28.24	23.04	flush	s.steel	
RW6-1	shallow	N/A	--	--	--	N/A	28.84	N/A	flush	s.steel	Not accessible; pallets of drums covering the well.
RW6-2	shallow	3.45	--	--	--	14.83	29.34	25.89	flush	s.steel	
RW6-3	shallow	3.96				5.45	28.72	24.76	flush	s.steel	
RW7-1	shallow	5.91	--	--	--	16.54	26.25	20.34	flush	s.steel	
RW7-2	shallow	6.31	--	--	--	16.89	26.48	20.17	flush	s.steel	Sediment on probe.
RW7-3	shallow	6.55	--	--	--	17.29	26.78	20.23	flush	s.steel	
RW7-4	shallow	6.92	--	--	--	19.06	27.11	20.19	flush	s.steel	Product on probe (DNAPL).
RW7-5	shallow	7.46	--	--	--	19.25	27.57	20.11	flush	s.steel	
RW7-6	shallow	6.90	--	--	--	15.03	26.48	19.58	flush	s.steel	Sediment on probe.
RW7-7	shallow	6.95	--	--	--	14.86	26.89	19.94	flush	s.steel	Sediment on probe.
RW7-8	shallow	5.56	--	--	--	15.01	25.90	20.34	flush	s.steel	
RW7-9	shallow	6.95	--	--	--	16.17	26.87	19.92	flush	s.steel	Sediment on probe.
RW7-10	shallow	7.08	--	--	--	14.22	26.10	19.02	flush	s.steel	
RW15-1	shallow	6.95	--	--	--	14.95	29.95	23.00	flush	s.steel	Sediment on probe.
RW15-2	shallow						30.15		flush	s.steel	Well not included in quarterly monitoring plan.
P Series:											
P-1	shallow	6.71	--	--	--	9.67	30.09	23.38	flush	1.5" pvc	
P-2	shallow	WA	--	--	--	WA	30.19	WA	flush	1.5" pvc	Well was sealed on March 29, 1996.
PI Series:											
PI-1	deep						26.90		flush	8" s.steel	Well not included in quarterly monitoring plan

882480018

TABLE 1: QUARTERLY WATER LEVEL/PRODUCT THICKNESS MEASUREMENTS (1/14/97)
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/Quartrly.xls
Entered by: SG Checked by: RMS

Well ID	Type	Depth to Water (1/14/97)	Depth to Product		Product Thickness	Depth to Bottom (1/14/97)	Elevation Top of Casing	Water Elevation	Well Construction (all 4" diameter unless otherwise noted)		
			DNAPL	LNAPL					Type	Casing	Comments
CW Series:											
CW-1	shallow	7.04	--	--	--	11.49	29.77	22.73	flush	s.steel	
CW-2	shallow						29.51		flush	s.steel	Well not included in quarterly monitoring plan.
CW-3	shallow						29.72		flush	s.steel	Recovery well; not included in monitoring plan.
CW-4	shallow	6.03	--	--	--	11.02	28.83	22.80	flush	s.steel	
CW-5	shallow						28.67		flush	s.steel	Recovery well; not included in monitoring plan.
CW-6	shallow						28.93		flush	s.steel	Well not included in quarterly monitoring plan.
CW-7	shallow	6.35	--	--	--	14.04	26.13	19.78	flush	s.steel	
CW-8	shallow	8.17	--	--	--	13.94	26.77	18.60	flush	s.steel	
CW-9	shallow						26.37		flush	s.steel	Recovery well; not included in monitoring plan.
CW-10	shallow	7.26	--	--	--	10.28	25.91	18.65	flush	s.steel	Sediment on probe.
CW-11	shallow						25.74		vaultbox	s.steel	Recovery well; not included in monitoring plan.
CW-12	shallow	7.09	13.85	--	0.15	14.00	25.71	18.62	flush	s.steel	Product on probe (DNAPL).
CW-13	shallow						26.05		flush	s.steel	Well not included in quarterly monitoring plan.
CW-14	shallow	7.62	--	--	--	13.93	26.37	18.75	flush	s.steel	
CW-15	shallow						26.31		flush	s.steel	Recovery well; not included in monitoring plan.
CW-16	shallow	7.52	13.78	--	0.18	13.96	26.45	18.93	flush	s.steel	Product on probe (DNAPL).
CW-17	shallow	6.84	--	--	--	13.99	26.25	19.41	flush	s.steel	Sediment on probe.
CW-18	shallow						26.61		flush	s.steel	Recovery well; not included in monitoring plan.
CW-19	shallow						26.50		flush	s.steel	Well not included in quarterly monitoring plan.
CW-20	shallow						26.74		flush	s.steel	Well not included in quarterly monitoring plan.
CW-21	shallow						26.77		flush	s.steel	Recovery well; not included in monitoring plan.
CW-22	shallow						26.35		flush	s.steel	Well not included in quarterly monitoring plan.

882480019

TABLE 1: QUARTERLY WATER LEVEL/PRODUCT THICKNESS MEASUREMENTS (1/14/97)
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/Quartrly.xls
Entered by: SG Checked by: RMS

Well ID	Type	Depth to Water (1/14/97)	Depth to Product		Product Thickness	Depth to Bottom (1/14/97)	Elevation Top of Casing	Water Elevation	Well Construction (all 4" diameter unless otherwise noted)		
			DNAPL	LNAPL					Type	Casing	Comments
MW Series:											
MW-1	(a)	9.92	--	--	--	23.56	32.42	22.50	stickup	pvc	
MW-2	shallow	7.88	--	--	--	10.30	31.00	23.12	stickup	pvc	
MW-3	deep	10.07	--	--	--	30.81	31.13	21.06	stickup	pvc	
MW-4	shallow	7.93	--	--	--	9.92	32.33	24.40	stickup	pvc	
MW-5	deep	10.96	--	--	--	28.39	32.54	21.58	stickup	pvc	
MW-6	shallow	10.20	18.15	--	0.13	18.28	30.74	20.54	stickup	pvc	Product on probe (DNAPL); sediment on probe.
MW-7	deep	9.38	--	--	--	32.92	30.68	21.30	stickup	pvc	
MW-8	shallow	--	--	--	--	10.74	30.26	--	stickup	pvc	Dry; well is filled with sediment.
MW-9	deep	8.51	--	--	--	29.62	29.83	21.32	stickup	pvc	
MW-10	shallow	12.87	--	--	--	17.34	30.83	17.96	stickup	pvc	
MW-11	deep	9.71	--	--	--	33.52	30.78	21.07	stickup	pvc	
MW-12	shallow	10.62	--	--	--	17.24	31.01	20.39	stickup	pvc	
MW-13	deep	9.43	--	--	--	33.16	31.16	21.73	stickup	pvc	
MW-14	shallow	11.26	--	--	--	15.62	30.70	19.44	stickup	pvc	
MW-15	deep	8.57	--	--	--	25.66	30.77	22.20	stickup	pvc	
MW-16	shallow	7.31	--	--	--	12.67	29.69	22.38	stickup	pvc	
MW-17	shallow	9.01	--	--	--	14.12	31.44	22.43	stickup	pvc	Sediment on probe.
MW-18	shallow	8.88	--	--	--	11.38	32.23	23.35	stickup	pvc	
MW-19	deep	6.91	--	--	--	26.65	29.08	22.17	stickup	pvc	
MW-20	shallow	4.84	--	--	--	20.11	27.95	23.11	flush	pvc	
MW-21	shallow	8.60	--	--	--	15.18	30.67	22.07	stickup	pvc	
MW-22	shallow	5.64	--	--	--	8.27	28.45	22.81	flush	pvc	
MW-23	shallow	4.28	--	--	--	9.63	27.51	23.23	flush	pvc	Sediment on probe.
MW-24	shallow	3.54	--	--	--	9.65	26.51	22.97	flush	pvc	Sediment on probe.
MW-25	shallow	7.14	--	--	--	12.83	26.03	18.89	flush	pvc	

882480020

TABLE 1: QUARTERLY WATER LEVEL/PRODUCT THICKNESS MEASUREMENTS (1/14/97)
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/Quartrly.xls
Entered by: SG Checked by: RMS

Well ID	Type	Depth to Water (1/14/97)	Depth to Product		Product Thickness	Depth to Bottom (1/14/97)	Elevation Top of Casing	Water Elevation	Well Construction (all 4" diameter unless otherwise noted)		
			DNAPL	LNAPL					Type	Casing	Comments
MW Series:											
MW-26	(b)	8.31	--	--	--	17.97	28.85	20.54	flush	2" pvc	
MW-27	shallow	7.03	--	--	--	12.54	31.43	24.40	stickup	pvc	
MW-28	shallow	10.31	--	--	--	14.81	29.68	19.37	stickup	pvc	
MW-29	shallow	4.08	--	--	--	9.37	27.32	23.24	flush	pvc	Sediment on probe.
MW-30	shallow	5.06	--	--	--	10.50	28.08	23.02	flush	pvc	Sediment on probe.
MW-31	shallow	4.67	--	--	--	10.66	27.95	23.28	flush	pvc	
MW-32	shallow	WA				WA	32.51	WA	stickup	pvc	Well was sealed on March 29, 1996.
MW-33	shallow	9.76	--	--	--	17.02	31.72	21.96	stickup	pvc	Orange floc on probe.
PB Series:											
PB-1	shallow	4.51	--	--	--	5.30	21.78	17.27	stickup	2" g.steel	Product on probe (DNAPL); sediment on probe.
PB-2	shallow	1.89	5.37	--	0.48	5.85	21.25	19.36	stickup	2" g.steel	Product on probe (DNAPL); sediment on probe.
PB-4	shallow	1.88	--	--	--	5.18	21.52	19.64	stickup	2" g.steel	Sediment on probe.

NOTES: All measurements of depths are from the top of casing unless otherwise noted.

-- : Not detected by product interface meter.

N/A : Well not accessible.

(a) : Subsurface investigation in December 1995 near MW-1 revealed that MW-1 is not a deep well; refer to Section 1a of the April 1996 Progress Report for detail

(b) : Construction data for MW-26 reveal that MW-26 is not a deep well; refer to Section 1a of the April 1996 Progress Report for details.

WA : Well was sealed on March 29, 1996. Refer to April 1996 Progress Report for details.

* : In wells with LNAPL, water levels are corrected using the equation: DTW (corrected) = DTW (measured) - (Product thickness * specific gravity). Specific gravity of 0.88 used for water level correction (petroleum lubricating oil).

Many of the wells have accumulated sediment which results in slight fluctuations in the measurements of depth to bottom.

882480021

TABLE 2: WELL CONSTRUCTION DATA
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/wellscrn.xls

Well ID	Type	Ground Elevation	Elevation Top of Casing	Depth to Bottom (1/14/97)	Length of Screen	Elevation Top of Screen	Water Elevation (1/14/97)	Well Construction *		Installation		Water Table Elv. > Top of Screen Elv.
								Type	Casing	Date	By	
RW Series:												
RW1-1	shall.	28.67	28.24	14.31	10	23.67	23.04	flush	s.steel	10/91	Heritage	No
RW6-1	shall.	29.28	28.84	N/A	5	20.28	N/A	flush	s.steel	8/90	Heritage	N/A
RW6-2	shall.	U	29.34	14.83	5	U	25.89	flush	s.steel	8/90	Heritage	U
RW6-3	shall.	29.02	28.72	5.45	5	27.52	24.76	flush	s.steel	8/90	Heritage	No
RW7-1	shall.	26.94	26.25	16.54	5	13.94	20.34	flush	s.steel	8/90	Heritage	Yes
RW7-2	shall.	27.07	26.48	16.89	5	14.57	20.17	flush	s.steel	8/90	Heritage	Yes
RW7-3	shall.	27.17	26.78	17.29	5	14.67	20.23	flush	s.steel	8/90	Heritage	Yes
RW7-4	shall.	27.60	27.11	19.06	5	13.60	20.19	flush	s.steel	8/90	Heritage	Yes
RW7-5	shall.	27.97	27.57	19.25	5	12.97	20.11	flush	s.steel	9/90	Heritage	Yes
RW7-6	shall.	27.10	26.48	15.03	5	17.10	19.58	flush	s.steel	9/90	Heritage	Yes
RW7-7	shall.	27.25	26.89	14.86	5	17.25	19.94	flush	s.steel	9/90	Heritage	Yes
RW7-8	shall.	26.71	25.90	15.01	5	16.71	20.34	flush	s.steel	9/90	Heritage	Yes
RW7-9	shall.	27.18	26.87	16.17	5	15.18	19.92	flush	s.steel	2/91	Heritage	Yes
RW7-10	shall.	26.50	26.10	14.22	5	16.50	19.02	flush	s.steel	2/91	Heritage	Yes
RW15-1	shall.	30.43	29.95	14.95	10	25.68	23.00	flush	s.steel	8/90	Heritage	No
RW15-2	shall.	30.37	30.15		10	26.37	NI	flush	s.steel	8/90	Heritage	NI
P Series:												
P-1	shall.	U	30.09	9.67	U	U	23.38	flush	1.5" pvc	U	U	U
P-2	shall.	U	30.19	WA	U	U	WA	flush	1.5" pvc	U	U	U, WA
PI Series:												
PI-1	deep	U	26.90		U	U	NI	flush	s.steel	10/91	Heritage	^

TABLE 2: WELL CONSTRUCTION DATA
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/wellscrn.xls

Well ID	Type	Ground Elevation	Elevation Top of Casing	Depth to Bottom (1/14/97)	Length of Screen	Elevation Top of Screen	Water Elevation (1/14/97)	Well Construction *		Installation		Water Table Elv. > Top of Screen Elv.
								Type	Casing	Date	By	
CW Series:												
CW-1	shall.	30.27	29.77	11.49	5	23.27	22.73	flush	s.steel	9/90	Heritage	No
CW-2	shall.	30.11	29.51		5	23.11	NI	flush	s.steel	9/90	Heritage	NI
CW-3	recov.	U	29.72		5	U	NI	flush	s.steel	9/90	Heritage	NI
CW-4	shall.	29.10	28.83	11.02	5	22.60	22.80	flush	s.steel	7/90	Heritage	Yes
CW-5	recov.	28.89	28.67		5	22.39	NI	flush	s.steel	7/90	Heritage	NI
CW-6	shall.	29.25	28.93		5	25.25	NI	flush	s.steel	9/90	Heritage	NI
CW-7	shall.	26.70	26.13	14.04	5	17.70	19.78	flush	s.steel	8/90	Heritage	Yes
CW-8	shall.	26.70	26.77	13.94	5	17.70	18.60	flush	s.steel	8/90	Heritage	Yes
CW-9	recov.	26.60	26.37		5	17.60	NI	flush	s.steel	8/90	Heritage	NI
CW-10	shall.	26.50	25.91	10.28	5	17.50	18.65	flush	s.steel	8/90	Heritage	Yes
CW-11	recov.	26.60	25.74		5	17.60	NI	vaultbox	s.steel	8/90	Heritage	NI
CW-12	shall.	26.51	25.71	14.00	5	17.51	18.62	flush	s.steel	8/90	Heritage	Yes
CW-13	shall.	26.60	26.05		5	17.60	NI	flush	s.steel	8/90	Heritage	NI
CW-14	shall.	26.70	26.37	13.93	5	17.70	18.75	flush	s.steel	8/90	Heritage	Yes
CW-15	recov.	26.90	26.31		5	17.90	NI	flush	s.steel	8/90	Heritage	NI
CW-16	shall.	27.00	26.45	13.96	5	18.00	18.93	flush	s.steel	8/90	Heritage	Yes
CW-17	shall.	27.10	26.25	13.99	5	18.10	19.41	flush	s.steel	8/90	Heritage	Yes
CW-18	recov.	27.20	26.61		5	18.20	NI	flush	s.steel	8/90	Heritage	NI
CW-19	shall.	27.20	26.50		5	18.20	NI	flush	s.steel	8/90	Heritage	NI
CW-20	shall.	27.30	26.74		5	18.30	NI	flush	s.steel	8/90	Heritage	NI
CW-21	recov.	27.40	26.77		5	18.40	NI	flush	s.steel	8/90	Heritage	NI
CW-22	shall.	27.30	26.35		5	18.30	NI	flush	s.steel	8/90	Heritage	NI

TABLE 2: WELL CONSTRUCTION DATA
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/wellscrn.xls

Well ID	Type	Ground Elevation	Elevation Top of Casing	Depth to Bottom (1/14/97)	Length of Screen	Elevation Top of Screen	Water Elevation (1/14/97)	Well Construction *		Installation		Water Table Elv. > Top of Screen Elv.
								Type	Casing	Date	By	
MW Series:												
MW-1	(a)	29.03	32.42	23.56	5	13.88	22.50	stickup	pvc	7/88	Environ	(a)
MW-2	shall.	27.90	31.00	10.30	5	26.13	23.12	stickup	pvc	8/88	Environ	No
MW-3	deep	27.84	31.13	30.81	5	5.30	21.06	stickup	pvc	8/88	Environ	^
MW-4	shall.	29.02	32.33	9.92	5	27.49	24.40	stickup	pvc	8/88	Environ	No
MW-5	deep	29.03	32.54	28.39	5	9.12	21.58	stickup	pvc	8/88	Environ	^
MW-6	shall.	27.14	30.74	18.28	10	22.12	20.54	stickup	pvc	8/88	Environ	No
MW-7	deep	27.18	30.68	32.92	5	2.55	21.30	stickup	pvc	7/88	Environ	^
MW-8	shall.	26.92	30.26	10.74	10	22.98	--	stickup	pvc	8/88	Environ	N/A
MW-9	deep	26.89	29.83	29.62	5	5.09	21.32	stickup	pvc	7/88	Environ	^
MW-10	shall.	27.33	30.83	17.34	11	24.81	17.96	stickup	pvc	8/88	Environ	No
MW-11	deep	27.28	30.78	33.52	10	6.86	21.07	stickup	pvc	7/88	Environ	^
MW-12	shall.	27.62	31.01	17.24	10	24.05	20.39	stickup	pvc	8/88	Environ	No
MW-13	deep	27.63	31.16	33.16	5	2.89	21.73	stickup	pvc	7/88	Environ	^
MW-14	shall.	27.12	30.70	15.62	9	24.18	19.44	stickup	pvc	8/88	Environ	No
MW-15	deep	27.17	30.77	25.66	5	10.13	22.20	stickup	pvc	7/88	Environ	^
MW-16	shall.	26.71	29.69	12.67	5	22.14	22.38	stickup	pvc	8/88	Environ	Yes
MW-17	shall.	29.10	31.44	14.12	8	25.10	22.43	stickup	pvc	1/89	Environ	No
MW-18	shall.	29.04	32.23	11.38	5	25.97	23.35	stickup	pvc	8/88	Environ	No
MW-19	deep	27.30	29.08	26.65	5	7.30	22.17	stickup	pvc	1/89	Environ	^
MW-20	shall.	28.50	27.95	20.11	5	13.50	23.11	flush	pvc	11/90	Heritage	Yes
MW-21	shall.	28.80	30.67	15.18	10	25.80	22.07	stickup	pvc	9/90	Heritage	No
MW-22	shall.	28.73	28.45	8.27	5	25.73	22.81	flush	pvc	12/90	Heritage	No
MW-23	shall.	27.83	27.51	9.63	5	22.83	23.23	flush	pvc	11/90	Heritage	Yes
MW-24	shall.	26.93	26.51	9.65	5	21.93	22.97	flush	pvc	11/90	Heritage	Yes
MW-25	shall.	26.47	26.03	12.83	10	23.47	18.89	flush	pvc	9/90	Heritage	No

882480024

TABLE 2: WELL CONSTRUCTION DATA
Hexcel Facility
Lodi, New Jersey

-All measurements in feet -
-All elevations in feet (NGVD)-

GEO Engineering
May 1997
File: 94039/wldata/wellscrn.xls

Well ID	Type	Ground Elevation	Elevation Top of Casing	Depth to Bottom (1/14/97)	Length of Screen	Elevation Top of Screen	Water Elevation (1/14/97)	Well Construction *		Installation		Water Table Elv. > Top of Screen Elv.
								Type	Casing	Date	By	
MW Series:												
MW-26	(b)	29.26	28.85	17.97	2	12.26	20.54	flush	2" pvc	12/90	Heritage	(b)
MW-27	shall.	29.10	31.43	12.54	5	24.10	24.40	stickup	pvc	9/90	Heritage	Yes
MW-28	shall.	27.50	29.68	14.81	10	24.50	19.37	stickup	pvc	9/90	Heritage	No
MW-29	shall.	27.50	27.32	9.37	5	22.50	23.24	flush	pvc	2/91	Heritage	Yes
MW-30	shall.	28.25	28.08	10.50	5	22.25	23.02	flush	pvc	2/91	Heritage	Yes
MW-31	shall.	28.33	27.95	10.66	5	22.33	23.28	flush	pvc	2/91	Heritage	Yes
MW-32	shall.	U	32.51	WA	6	U	WA	stickup	pvc	4/92	Heritage	WA
MW-33	shall.	U	31.72	17.02	10	U	21.96	stickup	pvc	4/92	Heritage	U
PB Series:												
PB-1	shallow	17.46	21.78	5.30	1	16.46	17.27	stickup	2" g.steel	6/95	GEO	Yes
PB-2	shallow	17.50	21.25	5.85	1	16.70	19.36	stickup	2" g.steel	6/95	GEO	Yes
PB-4	shallow	17.52	21.52	5.18	1	16.72	19.64	stickup	2" g.steel	6/95	GEO	Yes

NOTES: Refer to "Table 2: Summary of Well Construction Data " provided in Appendix B of Progress Report dated July 31, 1995 for the list of sources used for compiling this table.

All measurements of depths are from the top of casing unless otherwise noted.

N/A: Well was inaccessible on the day of quarterly monitoring.

NI: Well not included in the quarterly monitoring.

U: Unknown.

*: All wells 4" diameter unless otherwise noted.

^: Well is screened in the confined aquifer, therefore, the question is not applicable.

(a): Ground water elevation data from MW-1 have been excluded from both shallow and deep aquifer contours; refer to Section 1a of the April 1996 Report for details.

(b): Ground water elevation data from MW-26 have been excluded from both shallow and deep aquifer contours; refer to Section 1a of the April 1996 Report for details.

WA: P-2 and MW-32 were sealed on March 29, 1996; refer to April 1996 Progress Report text for details.

882480025

Contour Map Reporting Form

Site Name: Former Hexcel Facility, Lodi, NJ
Project No.: 94039

Figure No.: 1
Water levels taken on 1/14/97

1. Did any surveyed well casing elevations change from the previous sampling event? ☐Yes
   If yes, attach new "Well Certification -Form B" and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.) ☒No

2. Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? ☒Yes ☐No
   If yes, identify these wells.

   Monitor wells for which the water table elevations are higher than the top of the well screen are identified in Table 2: Summary of Well Construction Data provided in Appendix A.

3. Are there any monitor wells present at the site but omitted from the contour map? ☒Yes
   Unless the omission of the well(s) has been previously approved by the Department, justify the omissions. ☐No

   Quarterly ground water elevation monitoring plan approved by NJDEP in its June 12, 1995 letter. For information on additional omissions, please refer to Figure 1 and Table 1.

4. Are there any monitor wells containing separate phase product during this measuring event? ☒Yes ☐No

   Were any of the monitor wells with separate phase product included in the ground water contour map? ☒Yes
   If yes, show the formula used to correct the water table elevation. ☐No

   Separate phase product, where present, consisted of DNAPL, therefore, no correction is required for the water table elevation.

5. Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? ☐Yes
   If yes, discuss the reasons for the change. ☒No

6. Has ground water mounding and/or depressions been identified in the ground water contour map? ☒Yes
   Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence. ☐No

   It is not known why mounding occurs in the vicinity of building 2.

7. Are all the wells used in the contour map screened in the same water-bearing zone? ☒Yes
   If no, justify inclusion of those wells. ☐No

8. Were the ground water contours
   ☒ computer generated, ☐ computer aided, or ☐ hand-drawn?
   If computer aided or generated, identify the interpolation method(s) used.

   Kriging Routine

Contour Map Reporting Fc ..1

Site Name: Former Hexcel Facility, Lodi, NJ
Project No.: 94039

Figure No.: 2
Water levels taken on 1/14/97
Page 1 of 1

1. Did any surveyed well casing elevations change from the previous sampling event? ☐Yes
   If yes, attach new "Well Certification -Form B" and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.) ☒No

2. Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? ☐Yes ☐No
   If yes, identify these wells.

   Not applicable because confined aquifer.

3. Are there any monitor wells present at the site but omitted from the contour map? ☐Yes
   Unless the omission of the well(s) has been previously approved by the Department, justify the omissions. ☒No

4. Are there any monitor wells containing separate phase product during this measuring event? ☐Yes ☒No

   Were any of the monitor wells with separate phase product included in the ground water contour map? ☐Yes
   If yes show the formula used to correct the water table elevation. ☒No

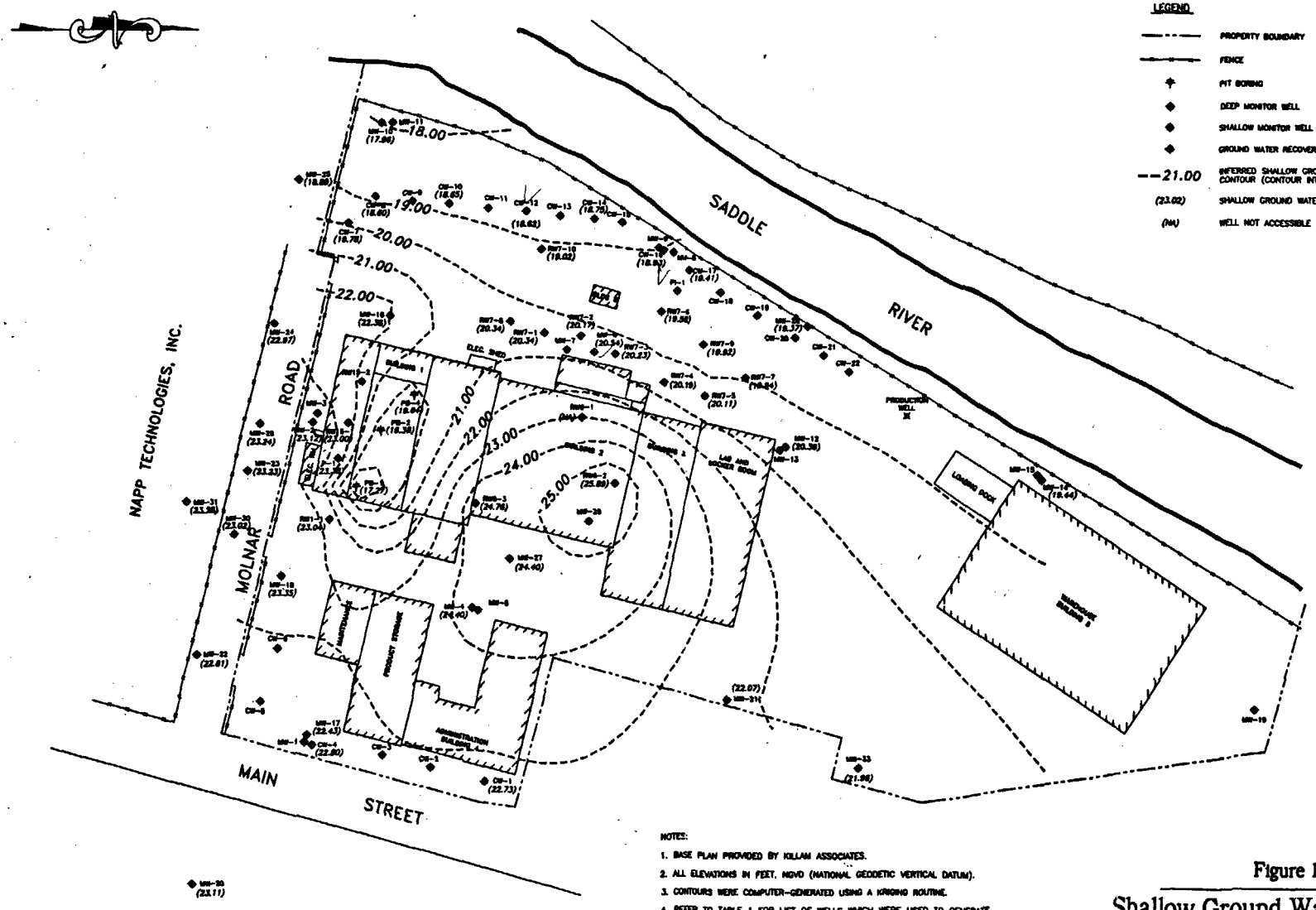
5. Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? ☐Yes
   If yes, discuss the reasons for the change. ☒No

6. Has ground water mounding and/or depressions been identified in the ground water contour map? ☐Yes
   Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence. ☒No

7. Are all the wells used in the contour map screened in the same water-bearing zone? ☒Yes
   If no, justify inclusion of those wells. ☐No

8. Were the ground water contours
   ☒ computer generated, ☐ computer aided, or ☐ hand-drawn?
   If computer aided or generated, identify the interpolation method(s) used.

   Kriging method.



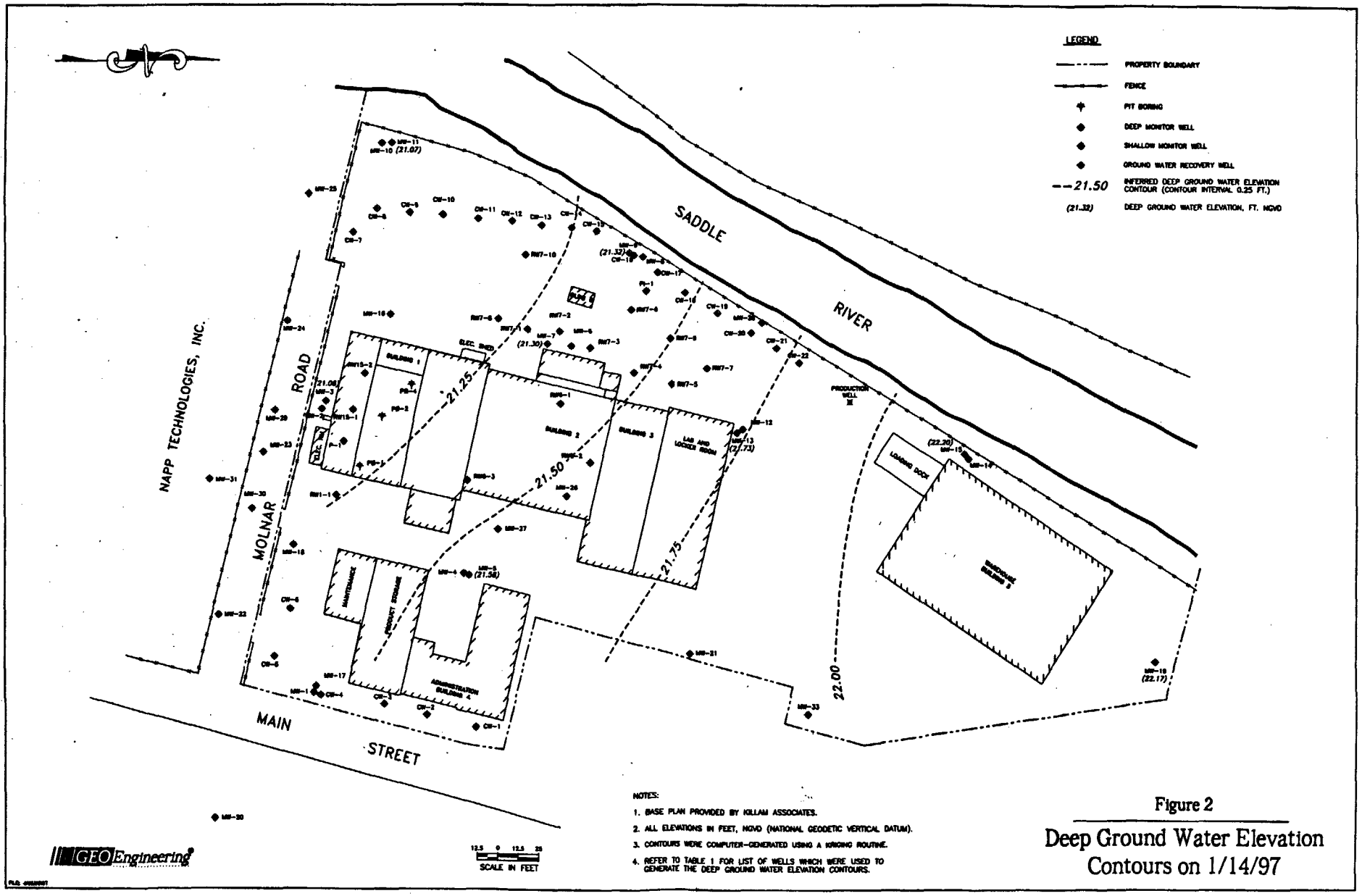
NOTES:

1. BASE PLAN PROVIDED BY KILLAM ASSOCIATES.
2. ALL ELEVATIONS IN FEET, NGVD (NATIONAL GEODETIC VERTICAL DATUM).
3. CONTOURS WERE COMPUTER-GENERATED USING A KRIGING ROUTINE.
4. REFER TO TABLE 1 FOR LIST OF WELLS WHICH WERE USED TO GENERATE THE SHALLOW GROUND WATER ELEVATION CONTOURS.
5. WATER LEVEL IN THE BASEMENT IS PUMPED TO THE LEVEL OF THE FLOOR. THE SURFACE ELEVATION OF THE FLOOR IS APPROXIMATELY 17.5'.

GEOEngineering

Figure 1

Shallow Ground Water Elevation Contours on 1/14/97



NOTES:

1. BASE PLAN PROVIDED BY KILLAM ASSOCIATES.
2. ALL ELEVATIONS IN FEET, NGVD (NATIONAL GEODETIC VERTICAL DATUM).
3. CONTOURS WERE COMPUTER-GENERATED USING A KRIGING ROUTINE.
4. REFER TO TABLE 1 FOR LIST OF WELLS WHICH WERE USED TO GENERATE THE DEEP GROUND WATER ELEVATION CONTOURS.

GEOEngineering

Figure 2

Deep Ground Water Elevation Contours on 1/14/97

Appendix C

Monthly Monitoring

Table 3. Monthly Water Level/Product Thickness Measurements for February 1997

Table 4. Monthly Water Level/Product Thickness Measurements for March 1997

TABLE 3: MONTHLY WATER LEVEL/PRODUCT THICKNESS MEASUREMENTS
FOR FEBRUARY 1997
Hexcel Facility
Lodi, New Jersey

GEO Engineering
May 1997
File: 94039/wldata/Monthly.xls
Entered by: SG Check: SM

-All measurements in feet -
-All elevations in feet (NGVD)-

MEASUREMENTS COLLECTED : 2/4/97

Well ID	Type	Depth to Water	Depth to Product		Product Thickness	Depth to Bottom	Elevation Top of Casing	Water Elevation	Comments
			DNAPL	LNAPL					
CW-12	shallow	6.84	--	--	--	14.01	25.71	18.87	Product on probe (DNAPL)**
CW-16	shallow	7.26	13.83	--	0.13	13.96	26.45	19.19	Product on probe (DNAPL)**
MW-6	shallow	10.05	17.86	--	0.49	18.35	30.74	20.69	Product on probe (DNAPL)**
MW-8	shallow	11.40	--	--	--	17.37	30.26	18.86	Product on probe (DNAPL)**
RW6-1	shallow	NA	--	--	--	NA	28.84	NA	Well not accessible due to drums
RW7-1	shallow	5.69	--	--	--	16.56	26.25	20.56	Product on probe (DNAPL)**
RW7-4	shallow	6.72	--	--	--	19.08	27.11	20.39	Product on probe (DNAPL)**
PB-1	shallow	4.03	--	--	--	5.25	21.78	17.75	Sediment on probe
PB-2	shallow	1.44	5.38	--	0.44	5.82	21.25	19.81	Product on probe (DNAPL, frothy)**

NOTES: All measurements of depths are from the top of casing unless otherwise noted.
Many of the wells have accumulated sediment which results in slight fluctuations in the measurements of depth to bottom.
-- Not detected by product interface meter.
* - In wells with LNAPL, water levels are corrected using the equation: DTW (corrected) = DTW (measured) - (Product thickness * specific gravity).
Specific gravity of 0.88 used for water level correction (petroleum lubricating oil).
** - Though the product-interface meter did not register presence of product in the well, product was observed on the probe.
NA - Well not accessible for monitoring.

882480032

TABLE 4: MONTHLY WATER LEVEL/PRODUCT THICKNESS MEASUREMENTS
FOR MARCH 1997
Hexcel Facility
Lodi, New Jersey

GEO Engineering
May 1997
File: 94039/wldata/Monthly.xls
Entered by: SG Check: SM

-All measurements in feet -
-All elevations in feet (NGVD)-

MEASUREMENTS COLLECTED : 3/7/97

Well ID	Type	Depth to Water	Depth to Product		Product Thickness	Depth to Bottom	Elevation Top of Casing	Water Elevation	Comments
			DNAPL	LNAPL					
CW-12	shallow	6.88	--	--	--	13.96	25.71	18.83	Product on probe (DNAPL)**
CW-16	shallow	7.32	--	--	--	13.92	26.45	19.13	Product on probe (DNAPL)**
MW-6	shallow	10.12	--	--	--	18.30	30.74	20.62	Product on probe (DNAPL)**
MW-8	shallow	11.46	--	--	--	17.52	30.26	18.80	Product on probe (DNAPL)**
RW6-1	shallow	NA	--	--	--	NA	28.84	NA	Well not accessible due to drums
RW7-1	shallow	5.78	--	--	--	16.51	26.25	20.47	Sediment on probe
RW7-4	shallow	6.92	--	--	--	19.30	27.11	20.19	Product on probe (DNAPL)**
PB-1	shallow	4.56	--	--	--	5.18	21.78	17.22	Sediment on probe
PB-2	shallow	1.50	5.60	--	0.22	5.82	21.25	19.75	Product on probe (DNAPL)**

NOTES: All measurements of depths are from the top of casing unless otherwise noted.
Many of the wells have accumulated sediment which results in slight fluctuations in the measurements of depth to bottom.
-- Not detected by product interface meter.
* - In wells with LNAPL, water levels are corrected using the equation: DTW (corrected) = DTW (measured) - (Product thickness * specific gravity).
Specific gravity of 0.88 used for water level correction (petroleum lubricating oil).
** - Though the product-interface meter did not register presence of product in the well, product was observed on the probe.
NA - Well not accessible for monitoring.

882480033

Appendix D

Product Recovery

Table 5. Product Collection (DNAPL) in First Quarter of 1997

Table 6. Product Collection (LNAPL) in First Quarter of 1997

TABLE 5: PRODUCT COLLECTION (DNAPL) IN FIRST QUARTER OF 1997
Hexcel Facility
Lodi, New Jersey

GEO Engineering
May 1997
File: 94039\prodcoll\prodcol2.xls
Sheet: First QD'97 (DEP)

All Quantities are Expressed in Gallons Rounded to the Nearest 0.1

DATE	MW-6 (DNAPL)	MW-8 (DNAPL)	MW-26 (DNAPL)	RW6-1 (DNAPL)	RW7-1 (DNAPL)	RW7-4 (DNAPL)	RW7-5 (DNAPL)	CW-12 (DNAPL)	CW-16 (DNAPL)	PB-2 (DNAPL)	CW-15^ (DNAPL)	TOTAL VOLUME RECOVERED
1/3/97	--	*	*	*	*	*	*	*	*	*	*	
1/9/97	--	*	*	*	*	*	*	*	*	*	*	
1/14/97 (Quarterly)	Product Recovery could not be accomplished due to pump-malfunction.											
1/22/97	Product Recovery could not be accomplished due to pump-malfunction.											
1/31/97	0.2	*	*	*	*	*	*	--	0.2	--	*	
2/4/97 (Monthly)	Product Recovery could not be accomplished due to pump-malfunction.											
2/7/97	0.5	*	*	*	*	*	*	--	--	--	*	
2/13/97	0.3	*	*	*	*	*	*	--	--	--	*	
2/19/97	0.3	*	*	*	*	*	*	--	--	--	*	
2/28/97	--	*	*	*	*	*	*	--	--	--	*	
3/7/97 (Monthly)	--	--	*	NA	--	--	*	--	--	--	*	
3/11/97	--	*	*	*	*	*	*	--	--	--	*	
3/17/97	0.1	*	*	*	*	*	*	*	*	--	*	
3/26/97	--	*	*	*	*	*	*	*	*	*	*	
TOTAL VOLUME RECOVERED, 1st QUARTER, 1997	1.4	--	--	--	--	--	--	--	0.2	--	--	1.6
TOTAL VOLUME RECOVERED, 4th QUARTER 1996	2.6	--	--	--	--	--	--	--	--	--	--	2.6
TOTAL VOLUME RECOVERED, 10/94 - 9/96	13.8	1.0	0.4	0.1	0.3	--	--	0.7	0.4	4.1	0.8	21.6
TOTAL VOLUME RECOVERED (TOTAL SINCE 10/94)	17.8	1.0	0.4	0.1	0.3	--	--	0.7	0.6	4.1	0.8	25.8

Notes: For product recovery purposes, quantities greater than 0.1 gallons (approx. 1 cup) are considered to be "measurable". It is not practicable to separate product from mixture of water and product when quantity is less than 1 cup.

* Well not included in the weekly product recovery program.

-- i) Well was monitored and did not indicate recoverable product or ii) no measurable amount of product was recovered either by bailing or pumping.

^ CW-15 was removed from the product recovery program on 11/22/95 because ground water recovery equipment was re-installed in the well.

NA Well not available for monitoring due to drums.

TABLE 6: PRODUCT COLLECTION (LNAPL) IN FIRST QUARTER OF 1997
Hexcel Facility
Lodi, New Jersey

GEO Engineering
May 1997
File: 94039\prodcoll\prodcol2.xls
Sheet: First QL'97 (DEP)

All Quantities are Expressed in Gallons Rounded to the Nearest 0.1

DATE	MW-6 (LNAPL)	MW-8 (LNAPL)	MW-23 (LNAPL)	RW1-1 (LNAPL)	RW 6-1 (LNAPL)	RW7-4 (LNAPL)	RW7-5 (LNAPL)	CW-7 (LNAPL)	CW-12 (LNAPL)	CW-15 (LNAPL)	CW-16 (LNAPL)	MW-17 (LNAPL)	RW 15-1 (LNAPL)	TOTAL VOLUME RECOVERED
1/14/97 (Quarterly)	--	--	--	--	NA	--	--	--	--	*	--	*	*	
2/4/97 (Monthly)	--	--	*	--	NA	--	--	*	--	*	--	*	*	
3/7/97 (Monthly)	--	--	*	--	NA	--	--	*	--	*	--	*	*	
TOTAL VOLUME RECOVERED, 1st QUARTER, 1997	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
TOTAL VOLUME RECOVERED, 4th QUARTER 1996	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
TOTAL VOLUME RECOVERED, 10/94 - 9/96	6.7	--	--	--	--	--	--	1.3	--	--	--	--	--	8.0
TOTAL VOLUME RECOVERED (TOTAL SINCE 10/94)	6.7	--	--	--	--	--	--	1.3	--	--	--	--	--	8.0

Notes: For product recovery purposes, quantities greater than 0.1 gallons (approx. 1 cup) are considered to be "measurable". It is not practicable to separate product from mixture of water and product when quantity is less than 1 cup.

* Well not included in the weekly product recovery.

-- i) Monitoring did not indicate recoverable product or ii) no measurable amount of LNAPL was recovered in the absorbent pad.

^ CW-15 was removed from the product recovery program on 11/22/95 because ground water recovery equipment was re-installed in the well.

NA Well not available for monitoring due to drums.

Appendix E

Geoprobe Borings

Figure 3. Soil Boring Locations

Boring Logs

Soil Laboratory Report

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev: 28.9' NGVD

Boring No.: SB-1
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0		0 - 1.5": Black, Asphalt. 1.5" - 3.6": Black, medium GRAVEL and, fine Sand, some Silt.
1	3.8'			FILL	3.6" - 3.8': Orange brown, medium to fine SAND; occasional black cinders.
					4.0' - 5.5': Same as above.
			5		
2	4.0'			SP	5.5' - 8.0': Gray brown, medium to fine SAND, trace medium to fine Gravel.
					8.0' - 9.0': Same as above.
3	4.0'		10	ML	9.0' - 12.0': Gray, SILT.
				SP	12' - 14': Gray brown, medium to fine SAND, trace medium to fine Gravel.
4	2.0'				
5	2.0'				14' - 16': Same as above.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 16' Macro Core Sampler (2" in diameter by 44" long)
16' - 20' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480038

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-1
Page 2 **of** 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15	SP	
	0'				16' - 18': No Recovery.
6	1.5'				18' - 19.5': Brown gray, medium to fine SAND, trace medium to fine Gravel.
					19.5' - 20.0': No Recovery.
			20		Boring terminated at 20.0'.
			25		
			30		
			35		

GEO Engineering

882480039

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 30.1' NGVD

Boring No.: SB-2
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0 - 0.5': Black brown, medium to fine SAND; high organic content, topsoil.
1	2.8'				0.3' - 2.8': Orange brown, fine SAND.
					2.8' - 4.0': No Recovery.
					4.0' - 5.7': Orange brown, fine SAND.
			5		
2	3.2'				5.7' - 7.2': Red brown, coarse SAND, little medium to fine Gravel.
					7.2' - 8.0': No Recovery.
					8.0' - 9.2': Red-brown, coarse SAND, little medium to fine Gravel.
3	3.6'		10		9.2' - 11.6': Black, CINDERS.
					11.6' - 12.0': No Recovery.
4	1.0'				12.0' - 13.0': Brown, SILT.
5	2.0'			ML	13.0' - 14.6': Same as above.
					14.6' - 15.0': Black, SILT.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 12' Macro Core Sampler (2" in diameter by 44" long)
12' - 19' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480040

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-2
Page 2 of 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15		15.0' - 16.0': Same as above.
6	2.0'			SP	16.0' - 17.0': Red brown, coarse SAND, trace fine Gravel; soil particles are angular.
7	0.3'				17.0' - 17.3': Same as above; very loose.
					17.3' - 19.0': No Recovery.
					Boring terminated at 19.0'.
			20		
			25		
			30		
			35		

GEO Engineering

882480041

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 28.5' NGVD

Boring No.: SB-3
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0.0' - 0.5': Black brown, medium to fine SAND; high organic content, topsoil.
1	3.3'				0.5' - 3.3': Orange brown, medium to fine SAND; occasional Black Cinders.
					3.3' - 4.5': No Recovery.
					4.5' - 5.0': Orange brown, medium to fine SAND; occasional Black Cinders.
			5		
2	3.0'				5.0' - 6.6': Black, fine SAND; the sand appears to be product stained, strong hydrocarbon odor, possibly fuel oil.
					6.6' - 7.0': Black brown, CLAY; possible fill.
					7.0' - 8.0': No Recovery.
				ML	
3	3.0'				8.0' - 11.0': Orange brown, SILT, trace(-) fine Sand; 9.0' - 11.0' sample collected for hydrometer analysis, unit weight, and water content.
			10		
					Boring terminated at 11.0'.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 11' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480042

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 26.9' NGVD

Boring No.: SB-4
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0 - 0.5': Black, medium GRAVEL and, fine Sand, trace Silt; roadway sub-base material.
1	3.0'				0.5' - 3.0':Black and Brown alternating layers of: medium SAND, occasional Cinders and Gravel; occasional wood chips; Gravel may be brick fragments; oily and wet.
					3.0' - 4.0': No Recovery.
					4.0' - 5.5':Black and Brown alternating layers of: medium SAND, occasional Cinders and Gravel; occasional wood chips; Gravel may be brick fragments; oily and wet.
			5		
2	3.4'				5.5' - 6.7': Brown, SILT, trace medium Gravel.
				GP-GM	6.7' - 7.4': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt; Gravel may be brick fragments.
					7.4' - 8.0': No Recovery.
					8.0' - 10.0': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
3	4.0'				
			10	ML	10.0' - 12.0': Orange brown, SILT, trace fine Sand.
					Boring terminated at 12.0'.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 12' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe

GEO Engineering

882480043

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 26.7' NGVD

Boring No.: SB-5
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	
1	4.0'				0 - 4.0': Black, medium to fine GRAVEL and, coarse to fine Sand, trace silt; occasional wood chips.
			5		
2	3.5'				4.0' - 7.0':Red brown, coarse to medium GRAVEL, some Silt; gravel may be brick fragments.
				SM	7.0' - 7.5': Gray black, fine SAND, little Silt; the soil is stained with LNAPL. 7.5' - 8.0': No Recovery. 8.0' - 9.0': Gray black, fine SAND, little Silt; the soil is stained with LNAPL.
3	4.0'			GP-GM	9.0' - 12': Gray brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
			10		
				ML	12.0' - 14.0': Orange brown, SILT, trace fine Sand.
4	2.0'				
					Boring terminated at 14.0'.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 14' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480044

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 27.3' NGVD

Boring No.: SB-6
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0.0' - 2.0': Black, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; occasional wood pieces; sample was very loose.
1	2.0'				
					2.0' - 4.0': No Recovery.
			5		4.0' - 6.6': Black, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; occasional wood pieces; sample was very loose.
2	3.0'				
				SM	6.6' - 7.0': Gray, fine SAND, little Silt.
					7.0' - 8.0': No Recovery.
3	3.4'		10		8.0' - 11.0': Gray, fine SAND, little Silt.
					11.0' - 11.4': Gray, medium to fine SAND, trace fine Gravel; Gravel may be brick.
					11.4' - 12.0': No Recovery.
4	0.9'			GP-GM	12.0' - 12.9': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
					12.9' - 14.0': No Recovery.
5	2.0'			ML	14.0' - 16.0': Orange brown, SILT, trace fine Sand.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 12' Macro Core Sampler (2" in diameter by 44" long)
12' - 16' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480045

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-6
Page 2 **of** 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15	ML	
					Boring terminated at 16.0'.
			20		
			25		
			30		
			35		

GEO Engineering

882480046

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 26.6' NGVD

Boring No.: SB-7
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0.0' - 2.3': Black red, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; occasional wood particles.
1	2.3'				
					2.3' - 4.0': No Recovery.
			5		4.0' - 6.0': Black red, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; occasional wood particles.
2	3.5'			SM	6.0' - 7.5': Gray, fine SAND, little Silt.
					7.5' - 8.0': No Recovery.
3	3.0'				8.0' - 10.0': Gray, fine SAND, little Silt.
			10	GP-GM	10.0' - 11.0': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
					11.0' - 12.0': No Recovery.
4	2'			ML	12.0' - 14.0': Orange brown, SILT, trace fine Sand.
					Boring terminated at 14.0'.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 12' Macro Core Sampler (2" in diameter by 44" long)
12' - 14' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480047

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 26.9' NGVD

Boring No.: SB-8
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0.0' - 2.4': Black, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; material consists mainly of cinders.
1	2.9'				2.4' - 2.9': Same as above, except product stained soil.
					2.9' - 4.0': No Recovery.
			5		4.0' - 8.0': No Recovery.
2	1.5'			SP	8.0' - 9.5': Gray, medium to fine SAND, trace medium to fine Gravel; Gravel may be brick fragments; soil is oily and odor is detected, possible DNAPL.
			10		9.5' - 12.0': No Recovery.
3	2.0'			GP-GM	12.0' - 14.0: Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
4	1.5			ML	14.0' - 15.5': Orange brown, SILT, trace fine Sand.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 12' Macro Core Sampler (2" in diameter by 44" long)
12' - 15.5' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480048

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-8
Page 2 of 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15	ML	Boring terminated at 15.5'.
			20		
			25		
			30		
			35		

GEO Engineering

882480049

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 27.4' NGVD

Boring No.: SB-9
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	
1	2.8'				0.0' - 2.8': Red brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; Gravel may be brick fragments.
					2.8' - 4.0': No Recovery.
2	3.6'		5		4.0' - 6.0': Red brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; Gravel may be brick fragments.
				SM	6.0' - 7.6': Gray, fine SAND, little Silt.
					7.6' - 8.0': No Recovery.
3	4.0'		10		8.0' - 11.0': Gray, fine SAND, little (+) Silt; entire sample collected for Sieve Analysis.
				GP-GM	11.0' - 14.0': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace (+) Silt; sample collected for Sieve Analysis.
4	4.0'				
				ML	14.0' - 16.0': Orange brown, SILT, trace fine Sand.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 16.0' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480050

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-9
Page 2 **of** 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15	ML	
					Boring terminated at 16.0'.
			20		
			25		
			30		
			35		

GEO Engineering

882480051

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 27.6' NGVD

Boring No.: SB-10
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/27/95
Date Completed: 12/27/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0.0' - 1.0': Black, medium to fine GRAVEL and, coarse to fine Sand, trace Silt.
1	3.1'				1.0' - 3.1': Alternating layers of: black, Cinders, red, coarse to fine Gravel, brown, coarse to fine Sand; red Gravel may be brick fragments.
					3.1' - 4.0': No Recovery.
2	2.4'		5		4.0' - 6.4': Alternating layers of: black, Cinders, red, coarse to fine Gravel, brown, coarse to fine Sand; red Gravel may be brick fragments.
					6.4' - 8.0': No Recovery.
				SM	
3	4.0'		10		8.0' - 12.0': Gray, fine SAND, little Silt.
				SP	
4	3.4'				12'.0' - 15.4': Gray, medium (+) to fine SAND, trace medium to fine Gravel; 14.0' - 15.0' sample collected for Sieve Analysis.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 18' Macro Core Sampler (2" in diameter by 44" long)
18' - 22' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480052

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-10
Page 2 of 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15	SP	
					15.4' - 16.0': No Recovery.
				GP-GM	
5	1.8'				16.0' - 17.8': Gray brown, coarse to fine GRAVEL and, coarse to medium Sand, trace Silt.
					17.8' - 18.0': No Recovery.
					18.0' - 18.3': Gray brown, coarse to fine GRAVEL and, coarse to medium Sand, trace Silt.
6	1.0'			ML	18.3' - 19.0': Orange brown, SILT, trace fine Sand.
					19.0' - 20.0': No Recovery.
			20		
7	1.5'				20.0' - 21.5': Orange brown, SILT, trace fine Sand.
					21.5' - 22.0': No Recovery.
					Boring terminated at 22.0'.
			25		
			30		
			35		

GEO Engineering

882480053

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 28.8' NGVD

Boring No.: SB-11
Page 1 **of** 2
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	Top 4": Asphalt and Gravel.
1	2.3'				0.33' - 2.3': Black, CINDERS, some medium to fine Gravel; the gravel may be brick fragments.
					2.3' - 4.0': No Recovery.
2	2.7'		5		4.0' - 6.7': Black, CINDERS, some medium to fine Gravel; the gravel may be brick fragments.
					6.7' - 8.0': No Recovery.
					8.0' - 10.6': Black, CINDERS, some medium to fine Gravel; the gravel may be brick fragments.
				SM	
3	2.6'				8.7' - 10.6': Gray, fine SAND, little Silt.
			10		
					10.6' - 12.0': No Recovery.
				SP	12.0' - 15.5': Gray, medium to fine SAND, trace medium to fine Gravel.
4	4.0'				
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 16' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480054

Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ

Boring No.: SB-11
Page 2 **of** 2
File No.: 94039 T13

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			15	SP	15.5' - 16.0': Orange brown, SILT, trace fine Sand.
				ML	Boring terminated at 16.0'.
			20		
			25		
			30		
			35		

GEO Engineering

882480055

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 29.1' NGVD

Boring No.: SB-12
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	0.0' - 0.8': Concrete and coarse Gravel.
1	2.2'				0.8' - 2.2': Orange brown, medium to fine SAND, trace Black Cinders.
					2.2' - 4.0': No Recovery.
			5		
2	2.9'				4.0' - 6.9': Orange brown, medium to fine SAND, trace Black Cinders.
					6.9' - 8.0': No Recovery.
				SP	8.0' - 11.0': Gray, medium to fine SAND, trace medium to fine Gravel.
3	4.0'		10		
				ML	11.0' - 12.0': Orange brown, SILT, trace (-) fine Sand; Entire sample collected for permeability test, hydrometer analysis, unit weight, water content, and Atterberg limits.
					Boring terminated at 12.0'.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 12' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480056

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 26.5 NGVD

Boring No.: SB-13
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	
1	2.1'				0.0' - 2.1': Red brown, medium (+) to fine GRAVEL and, coarse to fine Sand, trace (+) Silt; Gravel may be brick fragments; Entire sample collected for Sieve Analysis.
					2.1' - 4.0': No Recovery.
2	1.5		5		4.0' - 5.5': Red brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; Gravel may be brick fragments.
					5.5' - 8.0': No Recovery.
3	1.4'				8.0' - 9.4': Red brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt; Gravel may be brick fragments.
			10		
					9.4' - 12.0': No Recovery.
				ML	
4	2.0'				12.0' - 14.0': Orange brown, SILT, trace (-) fine Sand; Entire sample collected for permeability test, hydrometer analysis, unit weight, water content, and Atterberg limits.
					Boring terminated at 14.0'.
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 14' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480057

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 27.2' NGVD

Boring No.: SB-14
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
			0	FILL	
1	2.0'				0.0' - 2.0': Brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt.
					2.0' - 4.0': No Recovery.
					4.0' - 5.4': Brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt.
2	2.8'		5		5.4' - 6.8': Brown, fine SAND; possible fill.
					6.8' - 8.0': No Recovery.
				SM	8.0' - 9.6': Gray, fine SAND, little Silt.
3	2.6'				
			10	GP-GM	9.6' - 10.6': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
					10.6' - 12.0': No Recovery.
4	1.3'				12.0' - 13.3': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
					13.3' - 14.0': No Recovery.
				ML	
5	1.0'				14.0' - 15.0': Orange brown, SILT, trace fine Sand.
			15		Boring terminated at 15.0'.

Boring Method: Geoprobe

Sampler Type: 0' - 14' Macro Core Sampler (2" in diameter by 44" long)
14' - 15' Large Bore Sampler (1" in diameter by 24" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480058

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 27.2' NGVD

Boring No.: SB-15
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
1	3.0'		0	FILL	0.0' - 3.0': Brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt.
					3.0' - 4.0': No Recovery.
2	1.5'				4.0' - 5.5': Brown, medium to fine GRAVEL and, coarse to fine Sand, trace Silt.
			5		Boring terminated at 5.5', refusal. Boring was restarted several feet away and renamed SB-16.
			10		
			15		

Boring Method: Geoprobe

Sampler Type: 0' - 5.5' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480059

Client: Hexcel Corporation
Project: ISRA Case No. 86009
Location: Former Hexcel Facility, Lodi, NJ
Drilling Contractor: Zebra Environmental Corp.
Inspector: RMS, SKT
Surface Elev.: 27.1' NGVD

Boring No.: SB-16
Page 1 **of** 1
File No.: 94039 T13

Date Started: 12/28/95
Date Completed: 12/28/95

Sample No.	Sample Recovery	Blows /12"*	Depth (Feet)	Soil Type	Soil Description
1	2.7'		0	FILL	0.0' - 2.7': Brown gray, medium to fine GRAVEL and, coarse to fine Sand, trace Silt.
					2.7' - 4.0': No Recovery.
2	2.5'		5	SM	4.0' - 6.5': Gray, fine SAND, little fine Sand.
					6.5' - 8.0': No Recovery.
					8.0' - 9.6': Gray, fine SAND, little fine Sand.
3	2.3'		10	GP-GM	9.6' - 10.3': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
					10.3' - 12.0': No Recovery.
					12.0' - 13.2': Red brown, coarse to fine GRAVEL and, coarse to fine Sand, trace Silt.
4	2.0'		15	ML	13.2' - 14.0': Orange brown, SILT, trace (-) fine Sand; Entire sample collected for permeability test, hydrometer analysis, unit weight, water content, and Atterberg limits.
					Boring terminated at 14.0'.

Boring Method: Geoprobe

Sampler Type: 0' - 14' Macro Core Sampler (2" in diameter by 44" long)

Sample Driven No Recovery

Water level after drilling

* Blow counts cannot be measured with Geoprobe.

GEO Engineering

882480060

Woodward-Clyde

TO: Mr. Robert Shusko
GEO ENGINEERING, INC
150 Mineral Spring Drive
Dover, NJ 07801

DATE: February 5, 1996
NAME: Greg Thomas
PROJECT NO.: 85C4445 D

Transmittal

X Enclosed	__ Copy of Letter	__ Prints	__ As Requested
__ Under Separate Cover	__ Contracts	__ Photostats	__ Approved
	__ Documents	__ Tracings	__ Approved As Noted
X First Class Mail	X Test Results	__ Sepias	__ Re-Submit
__ Messenger	__ Specifications	__ For Comments	__ Return
__ Special Delivery	__ Drilling Logs	__ For Approval	__ Corrected Prints
__ Air Mail	__ Photos	__ For Your Use	__
__ Fed. Express	__ Project Memo	__ For Your Files	

ITEM NO.	DESCRIPTION
1	Test results for HEXCEL Site per request of Sunila Gupta

REMARKS:

Copies to: file
/d001trm.doc

From: Gregory Thomas

Geotechnical Laboratory
45 H Commerce Way
Totowa, NJ 07512
• (201) 812-1818 • Fax (201) 812-8640

Project No.: 85C4445-D File: INDX1.XLS

TABLE _____

LABORATORY TESTING ASSIGNMENT AND DATA SUMMARY

BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS										REMARKS
			WATER CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT (1)	PLAS. IND.	USCS SYMB. (2)	SIEVE MINUS NO. 200 (%)	HYDROMETER % MINUS 2 υm (%)	TOTAL UNIT WEIGHT (pcf)	SPECIFIC GRAVITY	POROSITY	
S3	3	9-11	18.4							131.9	2.706	0.341	
S3	3	top	18.6										
S3	3	9.25			np		ML	94.5	7		2.706		
S3	3	mid	18.2										
S9	3	8-11	19.7				SM	16.4	2	95.3/119.5	2.657	0.520/0.398	loose and compacted unit weights
S9	4	11-12	10.8				GP-GM	9.4	1	112.9/137.4	2.685	0.392/0.260	loose and compacted unit weights
S10	4	14-15	16.4				SP	2.1					
S12	3		20.4		np		ML	97.8	7	131.5	2.724	0.358	
S13	1	0-4	8.0				GM	15.8	3	92.7/115.0	2.701	0.491/0.369	loose and compacted unit weights
S13	4		18.4		np		ML	98.5	10	141.4	2.726	0.298	
S14	4	11.5-14	10.2				GP-GM	10.6	1	114.4/138.9	2.685	0.381/0.248	loose and compacted unit weights
S16	4		20.1		np		ML	98.2	7	139.2	2.721	0.318	

Note: (1) np indicates material non-plastic. Unable to determine liquid limit.
(2) Plasticity of fines for USCS symbol based on visual observation unless Atterberg limits reported.

882480062

Prepared by: CMJ Reviewed by: _____ Date: 2/5/96

TABLE _____

SUMMARY OF LABORATORY PERMEABILITY TESTS PERFORMED ON THIN-WALLED TUBE SAMPLES

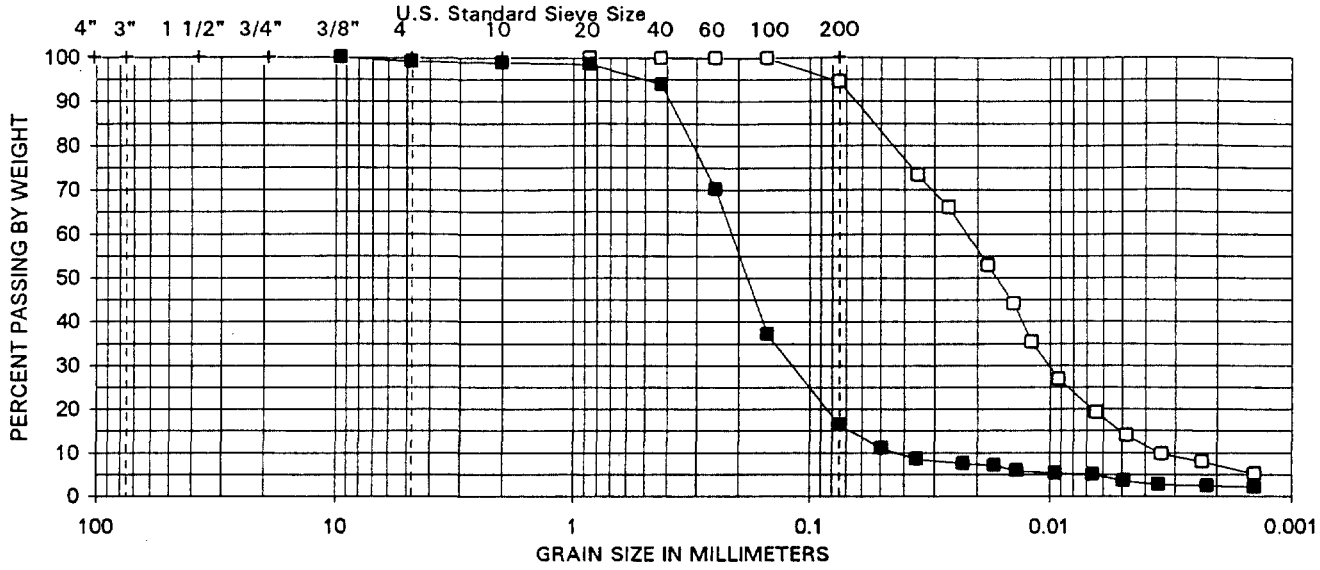
BORING NO.	SAMPLE NO.	DEPTH	WATER CONTENTS	TOTAL UNIT WGTS	DRY UNIT WGTS	STRESSES	DURING CONSOL.	DURING TEST	COEFFICIENT OF PERM. K, (@ 20 C)	REMARKS
			INITIAL	INITIAL	INITIAL	EFFECTIVE	TIME	PERMEANT		
			PRE-TEST	PRE-TEST	PRE-TEST	BACK PRESSURE	VOLUMETRIC STRAIN	INITIAL GRADIENT		
		(ft)	(%)	(pcf)	(pcf)	(psi)	(days, %)		(cm/sec)	
S-12	3		20.4	131.5	109.2	7.0	2	site water	4.8E-6	
			18.8	134.4	113.2	100.0	3.50	20		
S-13	4		18.4	141.4	119.4	7.0	2	site water	5.5E-6	
			17.0	145.1	124.0	100.0	3.70	20		
S-16	4		20.1	139.2	115.9	7.0	1	site water	3.1E-6	
			19.2	141.6	118.8	100.0	2.40	19		

882480063

Prepared by: CMJ Reviewed by: 97 Date: 1/11/96

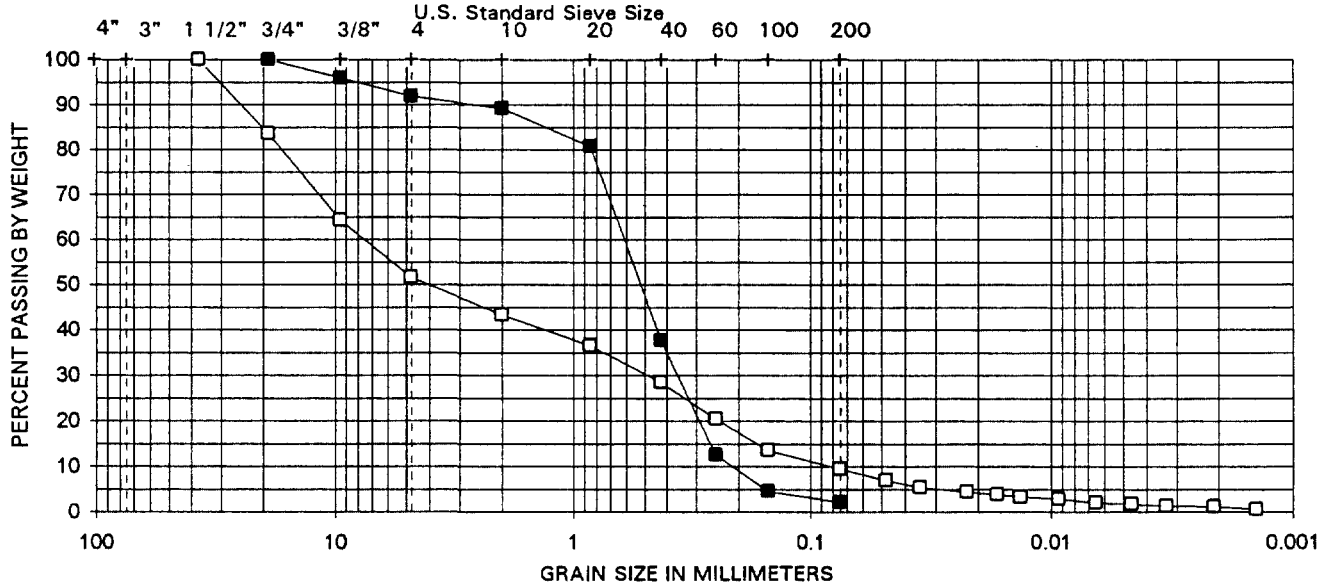
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S3	3A	9.25	□	ML, brown non-plastic SILT, trace f. sand.	---	---	np
S9	3	8-11	■	SM, brown f. SAND, some silt, trace c-m sand.	19.7	---	---

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



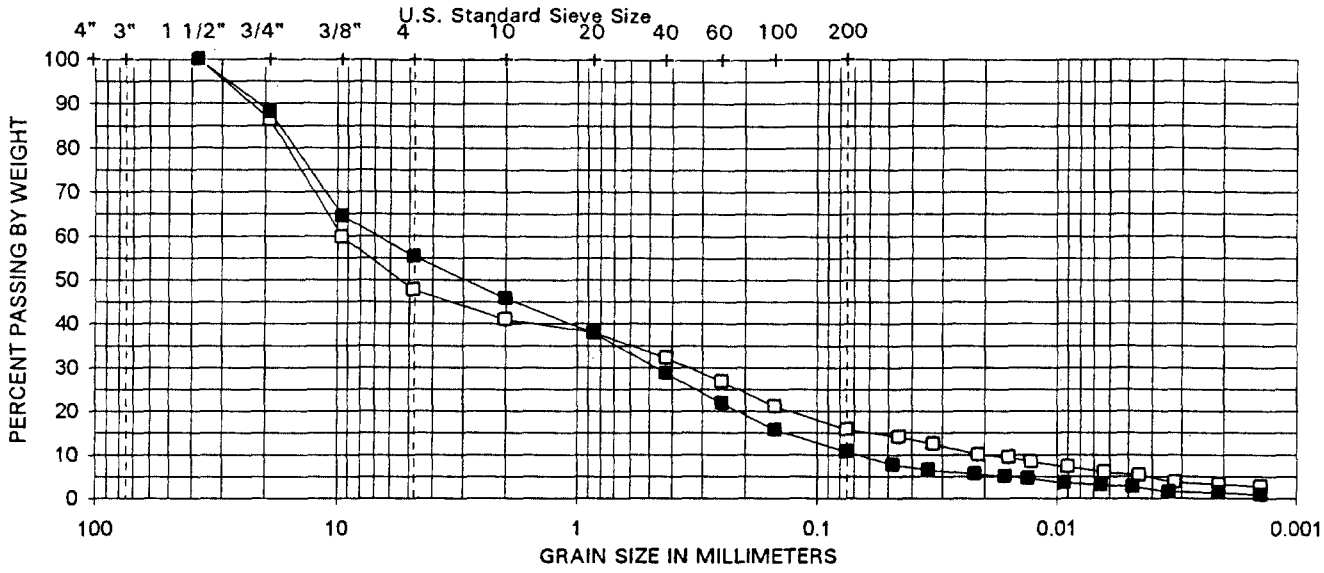
BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S9	4	11-12	□	GP-GM, brown c-f sandy GRAVEL, trace silt.	10.8	---	---
S10	4	14-15	■	SP, gray m-f SAND, trace f. gravel to c. sand and silt.	16.4	---	---

File: SIEV1B.XLS Project No.: 85C4445-D Plotted by: CMJ Reviewed by: MJ Date: 1/15/96

882480064

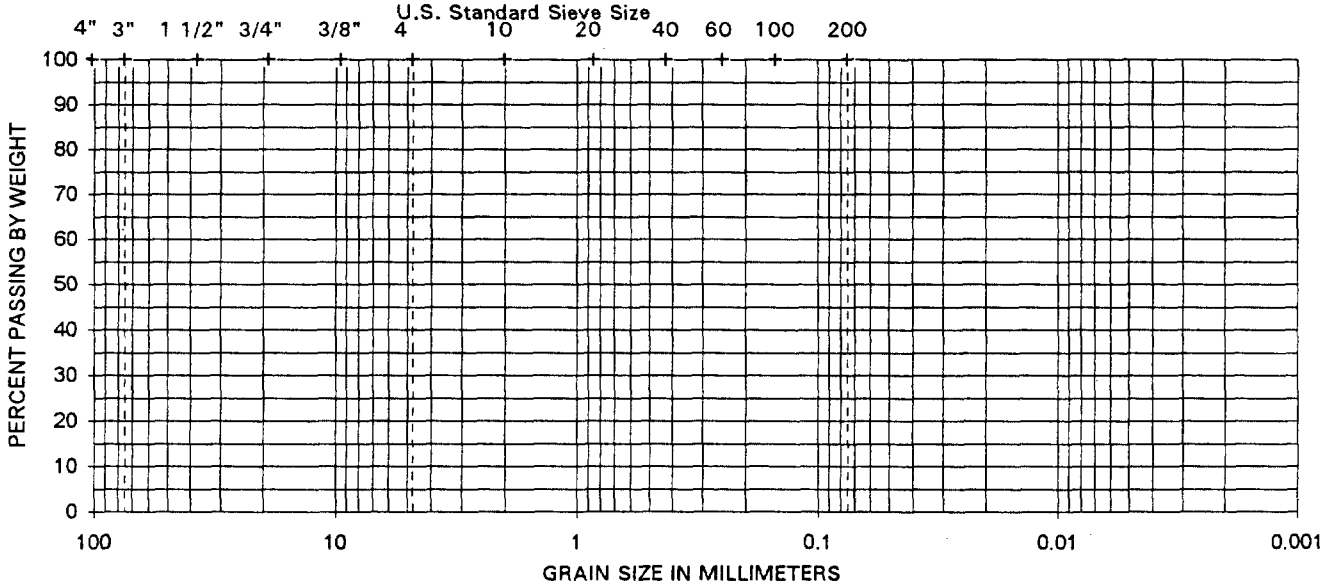
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S13	1	0-4	□	GM, brown c-f sandy GRAVEL, some silt.	8.0	---	---
S14	4	11.5-14	■	GP-GM, brown c-f sandy GRAVEL, trace silt.	10.2	---	---

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



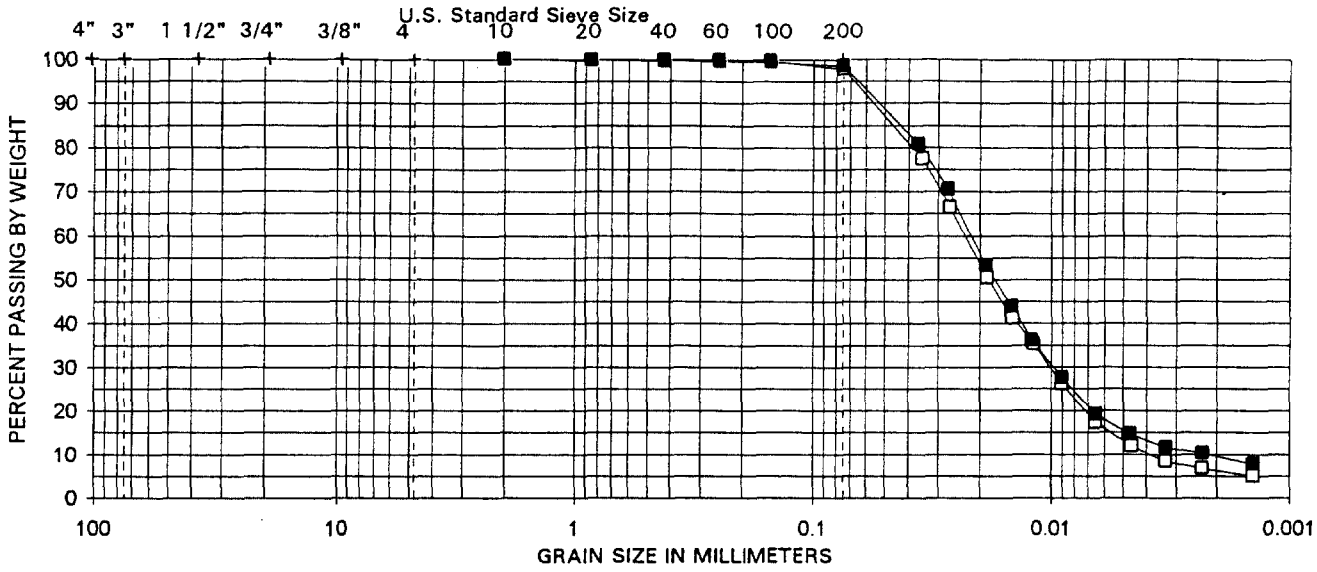
BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
---	---	---	□		---	---	---
---	---	---	■		---	---	---

File: SIEV1C.XLS Project No.: 85C4445-D Plotted by: CMJ Reviewed by: MJ Date: 1/15/96

882480065

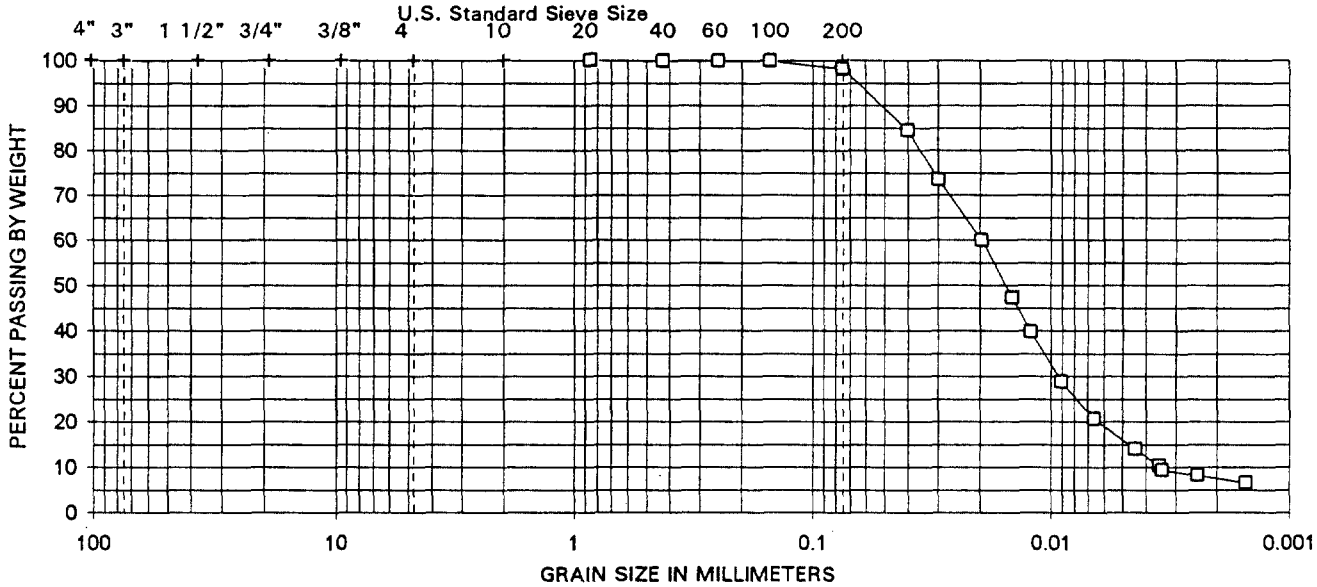
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S12	3	—	□	ML, brown non-plastic SILT, trace f. sand.	—	—	np
S13	4	—	■	ML, brown non-plastic SILT, trace f. sand.	—	—	np

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
S16	4	—	□	ML, brown non-plastic SILT, trace f. sand.	—	—	np
—	—	—	■		—	—	—

File: SIEV1A.XLS Project No.: 85C4445-D Plotted by: CMJ Reviewed by: MJ Date: 1/15/96

882480066

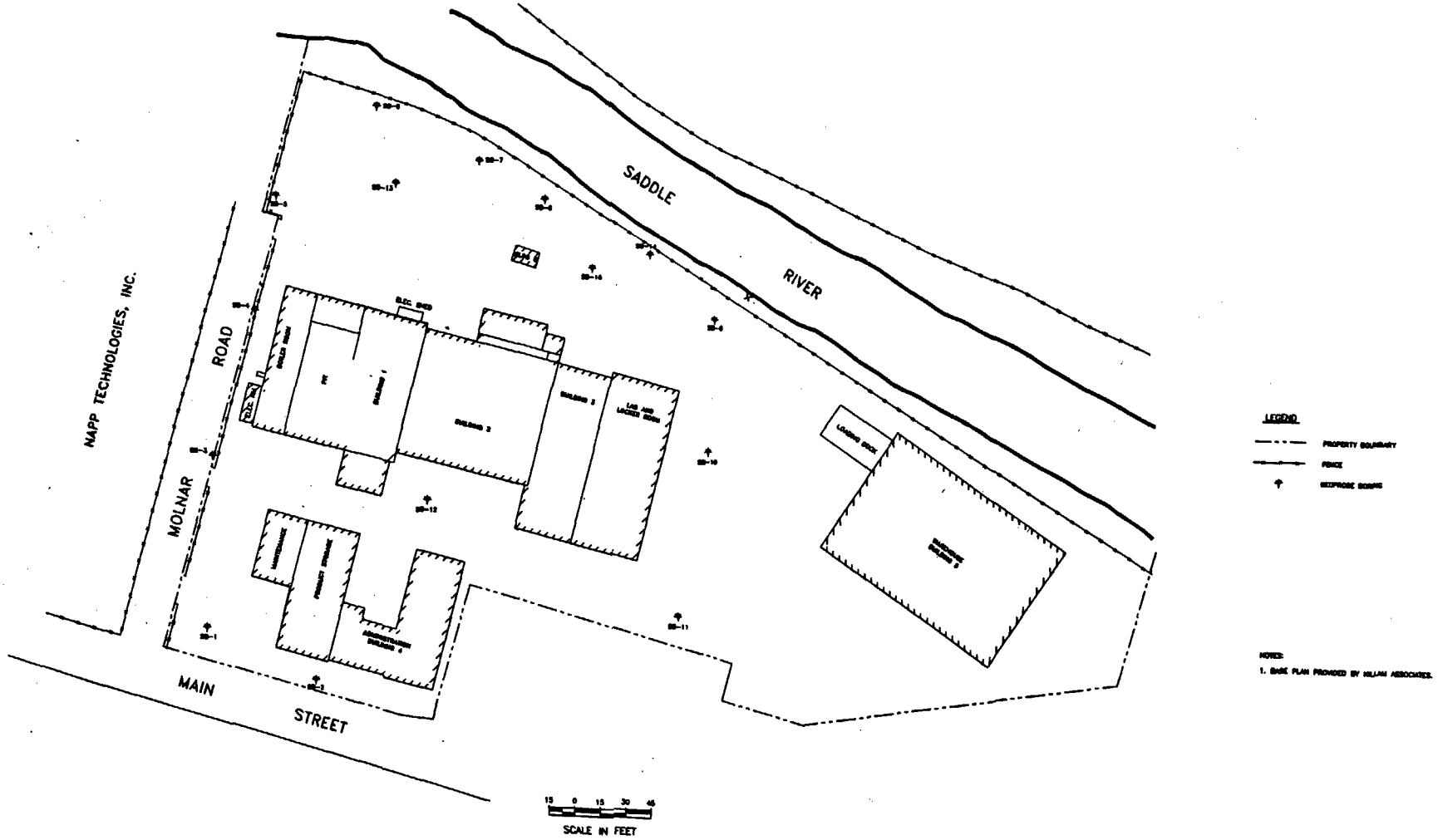


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Figure 3

Soil Boring Locations

Appendix F

Testing of Ground Water Recovery and Treatment System

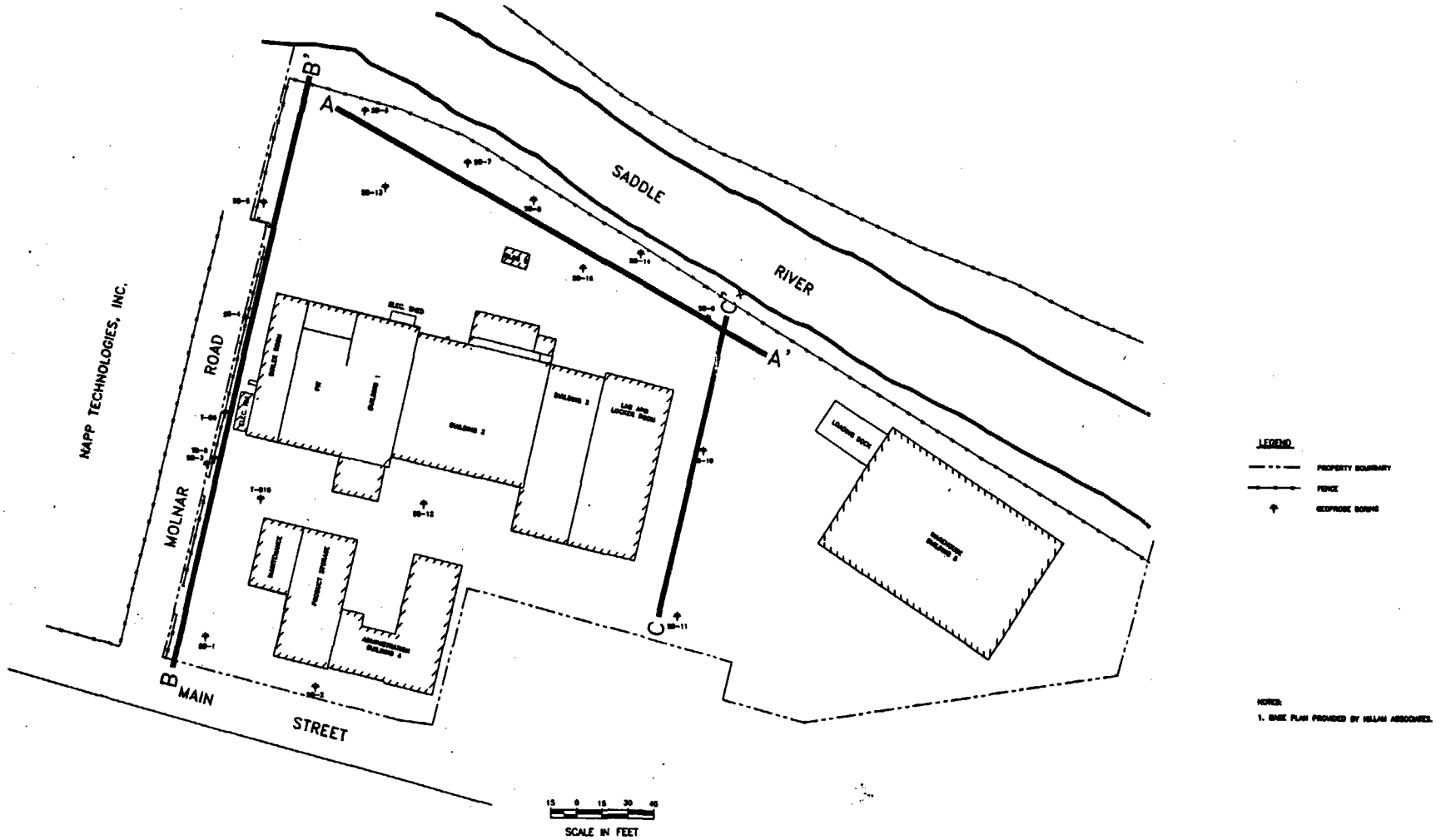


Figure 4

Cross-Section Locations

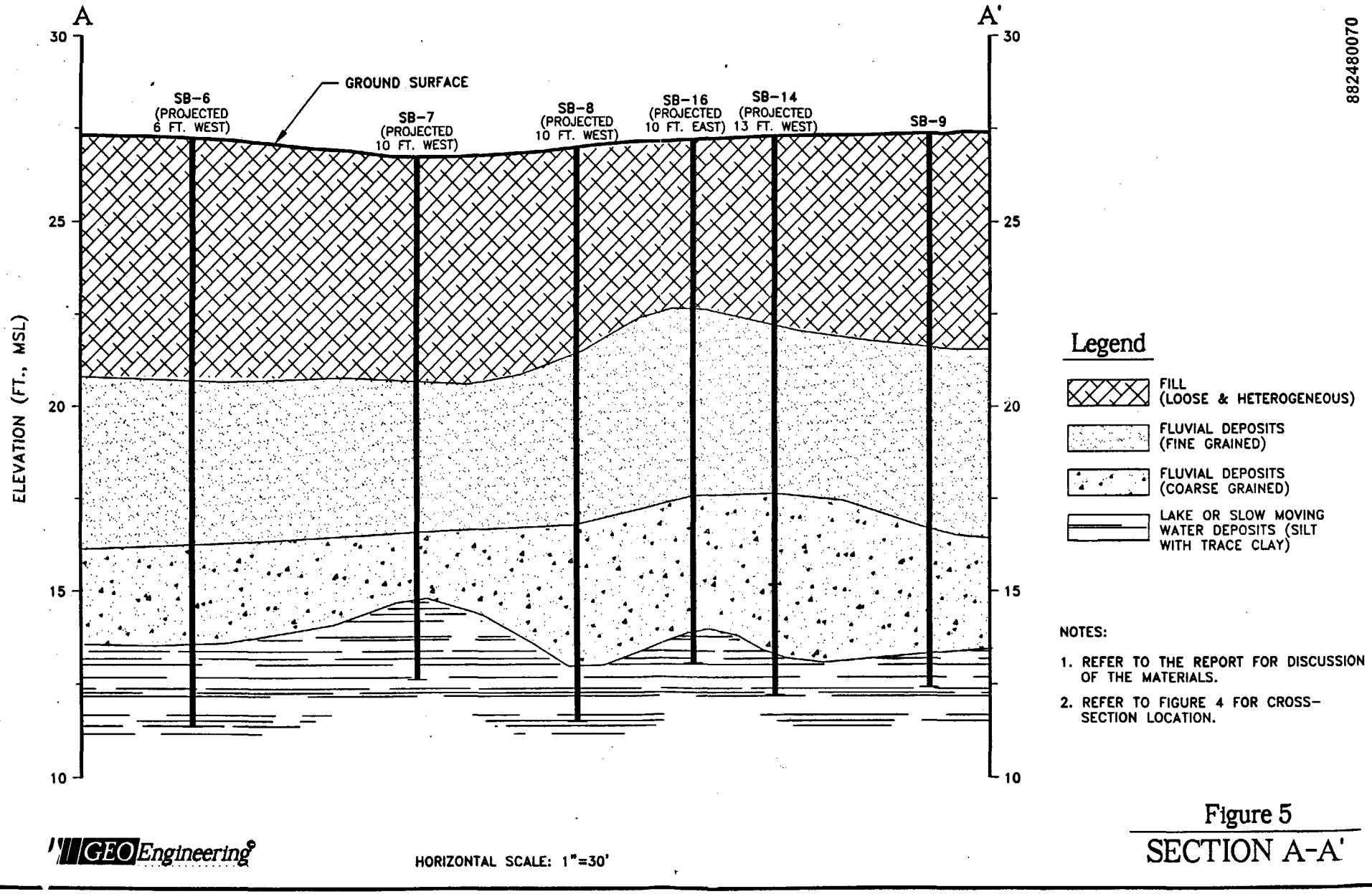


Figure 5

SECTION A-A'

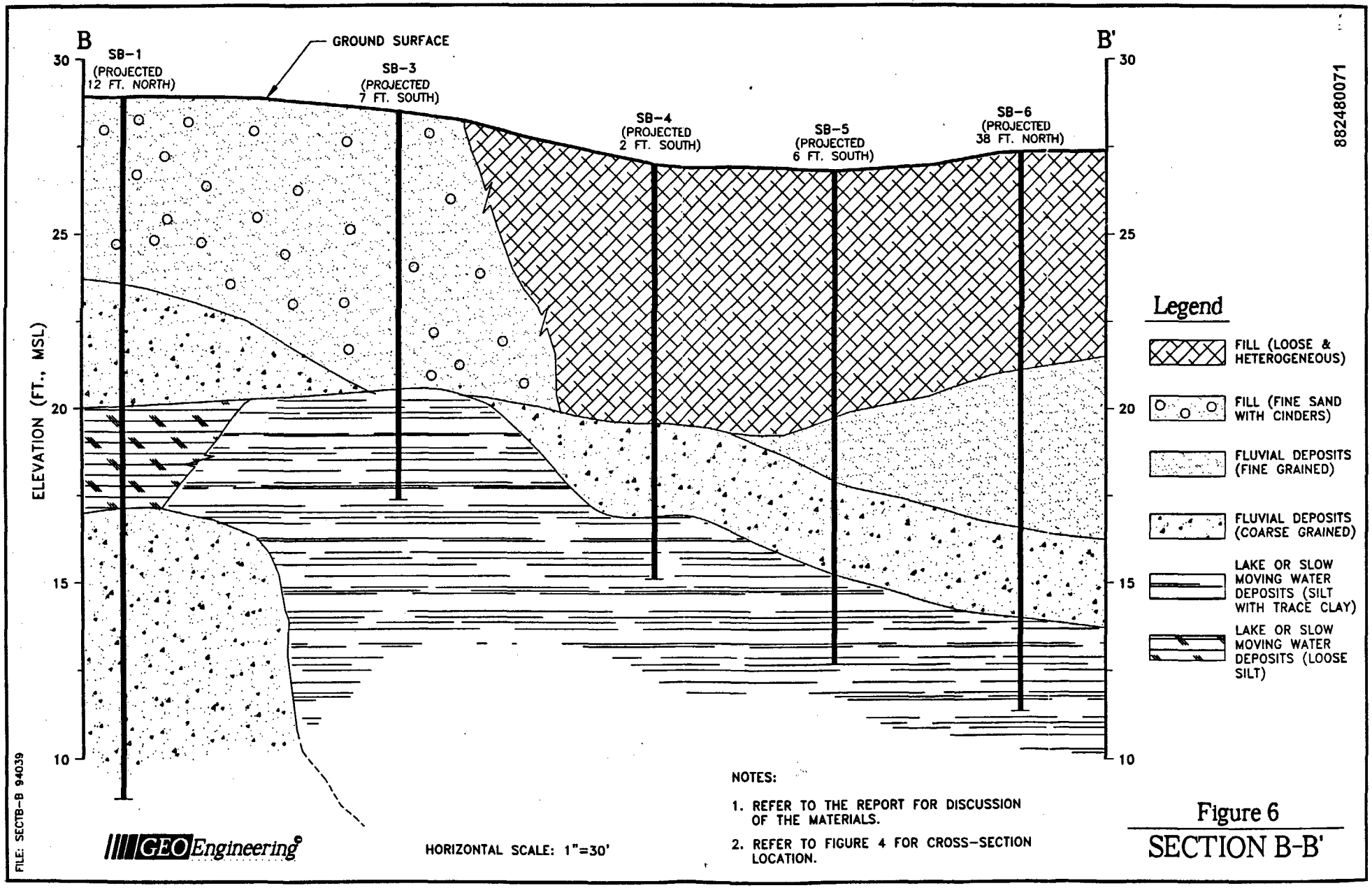
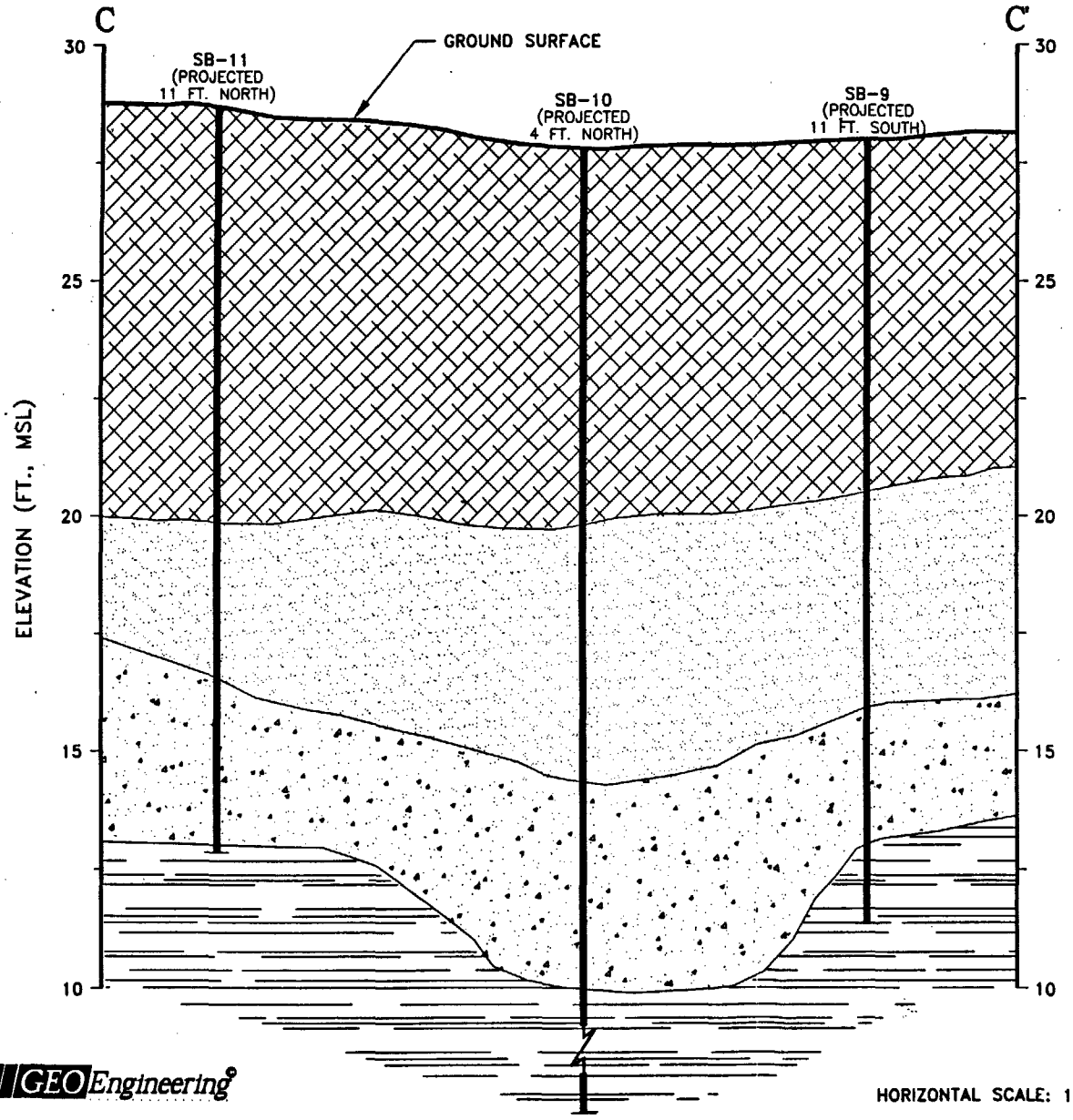


Figure 6

SECTION B-B'



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Legend

- FILL (LOOSE & HETEROGENEOUS)
- FLUVIAL DEPOSITS (FINE GRAINED)
- FLUVIAL DEPOSITS (COARSE GRAINED)
- LAKE OR SLOW MOVING WATER DEPOSITS (SILT WITH TRACE CLAY)

NOTES:

1. REFER TO THE REPORT FOR DISCUSSION OF THE MATERIALS.
2. REFER TO FIGURE 4 FOR CROSS-SECTION LOCATION.

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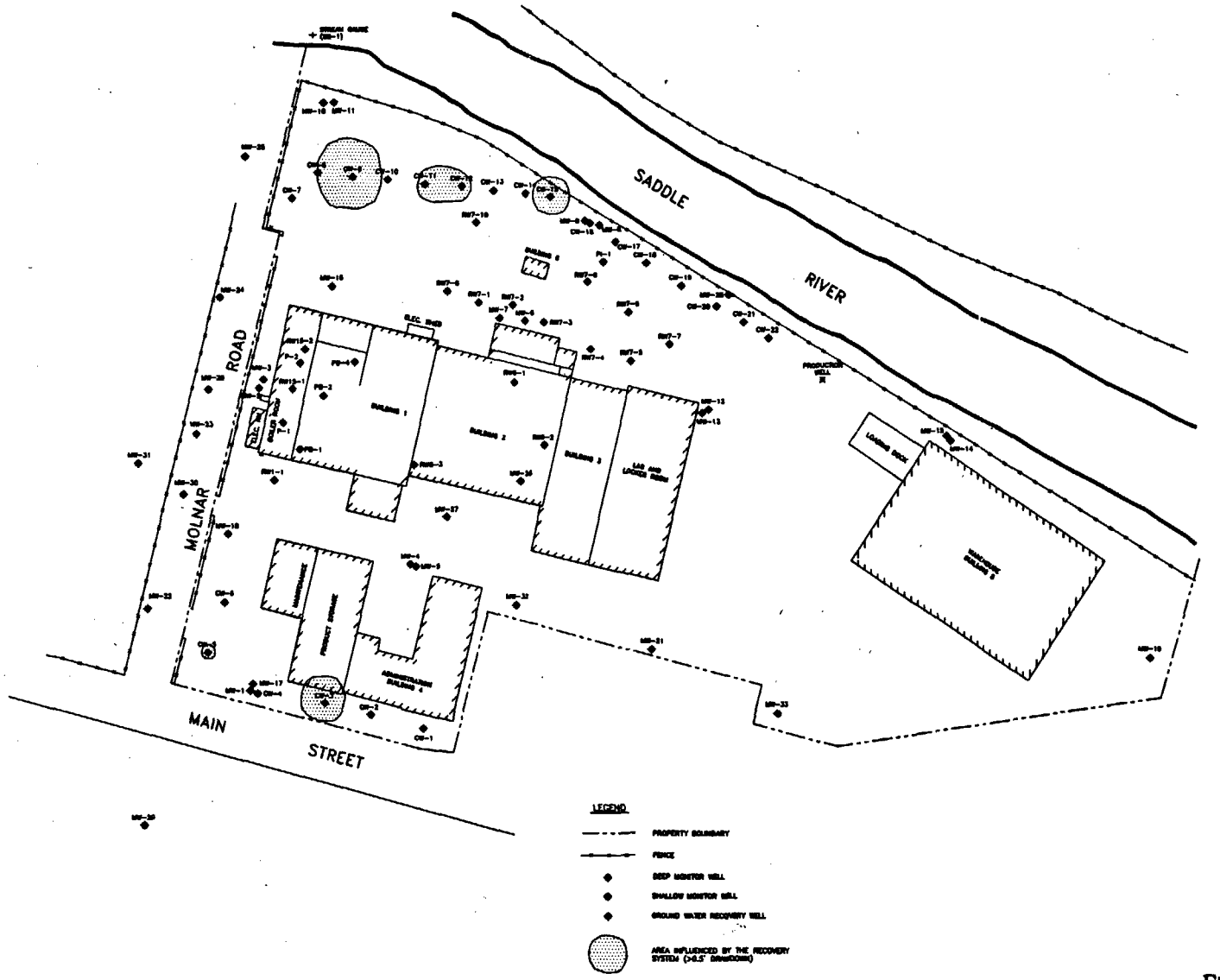
HORIZONTAL SCALE: 1"=30'

FILE: SECTC-C 94039

Figure 7

SECTION C-C'



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DOVER, N.J.
(201) 361-3600

NOTES:
1. BASE PLAN PROVIDED BY KILLAM ASSOCIATES.

Figure 8

Area Influenced by the Recovery System

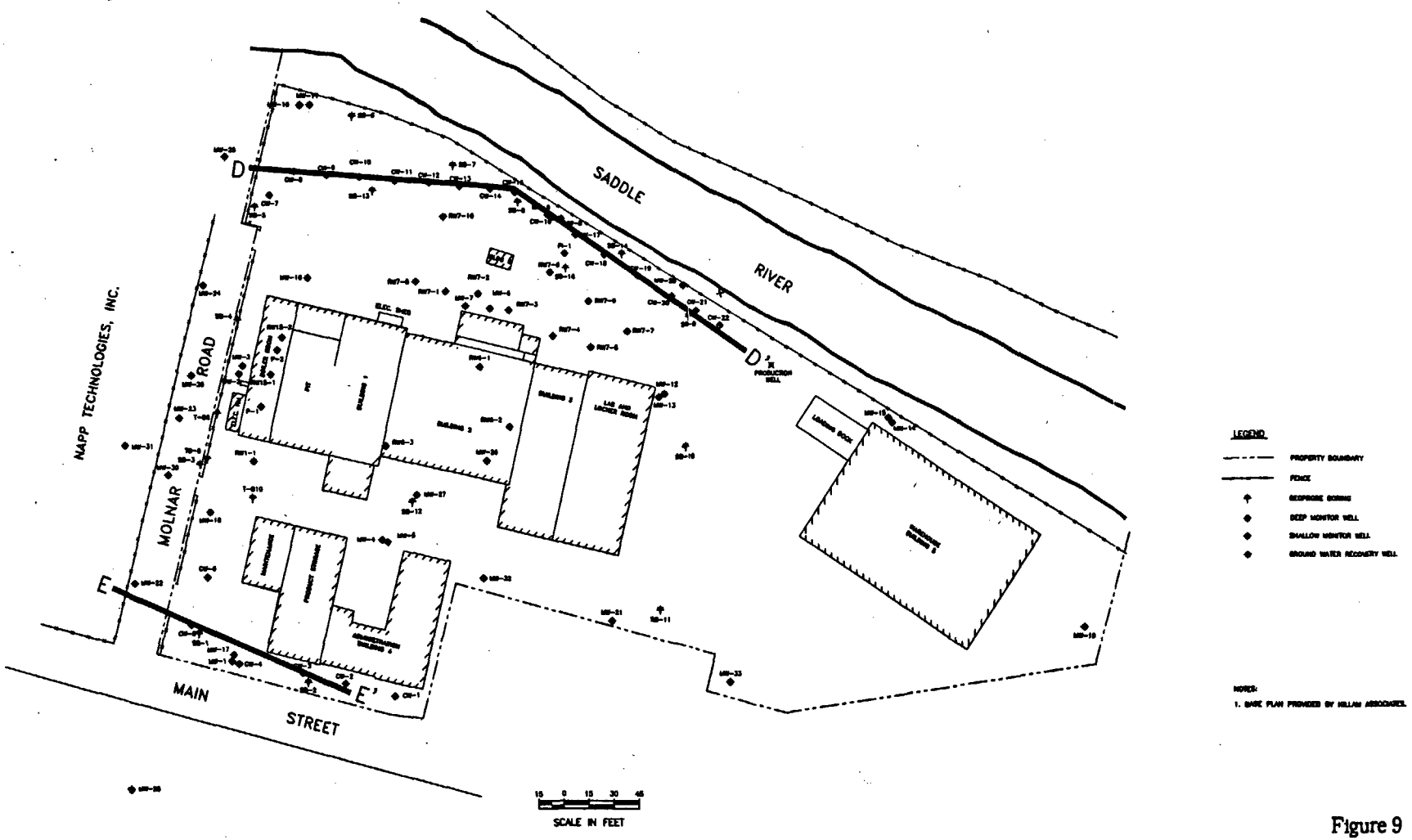

Figure 9

Location of Hydraulic Cross-Sections

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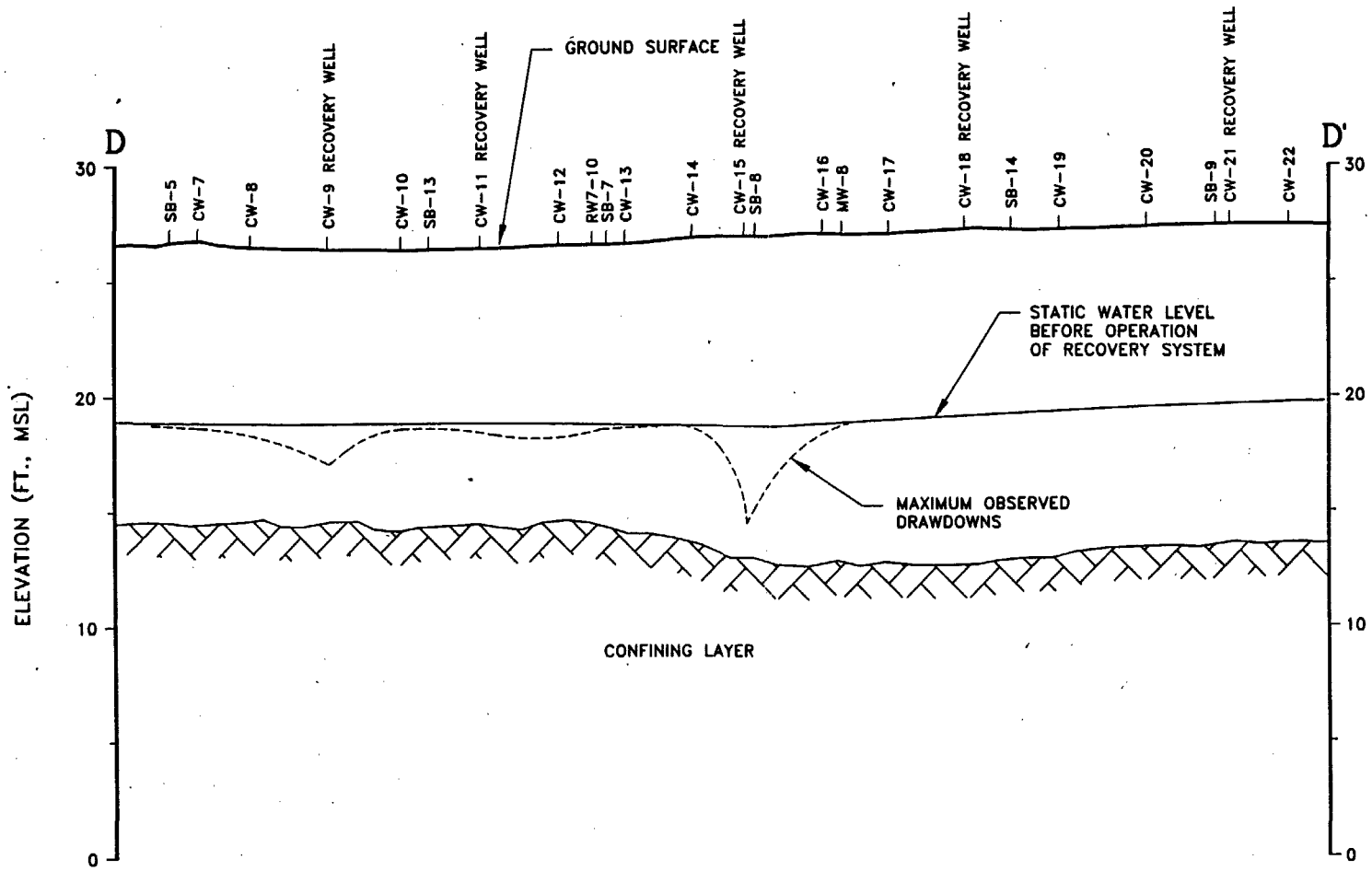

882480075

FILE: SECTD-D 94039

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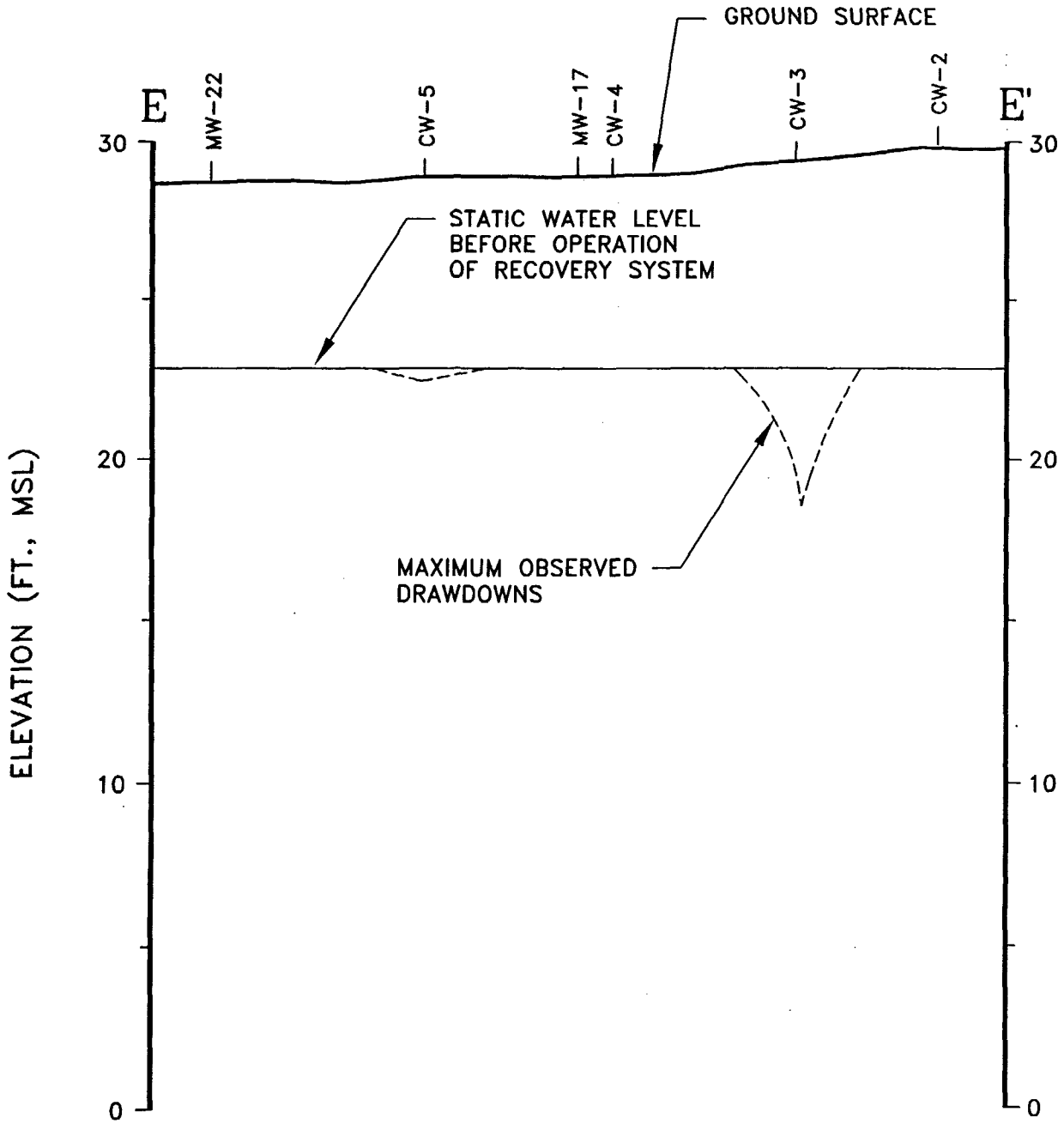
HORIZONTAL SCALE: 1"=30'

NOTES:

1. REFER TO FIGURE 9 FOR CROSS-SECTION LOCATION.

Figure 10

SECTION D-D'



HORIZONTAL SCALE: 1"=30'

NOTES:

1. REFER TO FIGURE 9 FOR CROSS-SECTION LOCATION.

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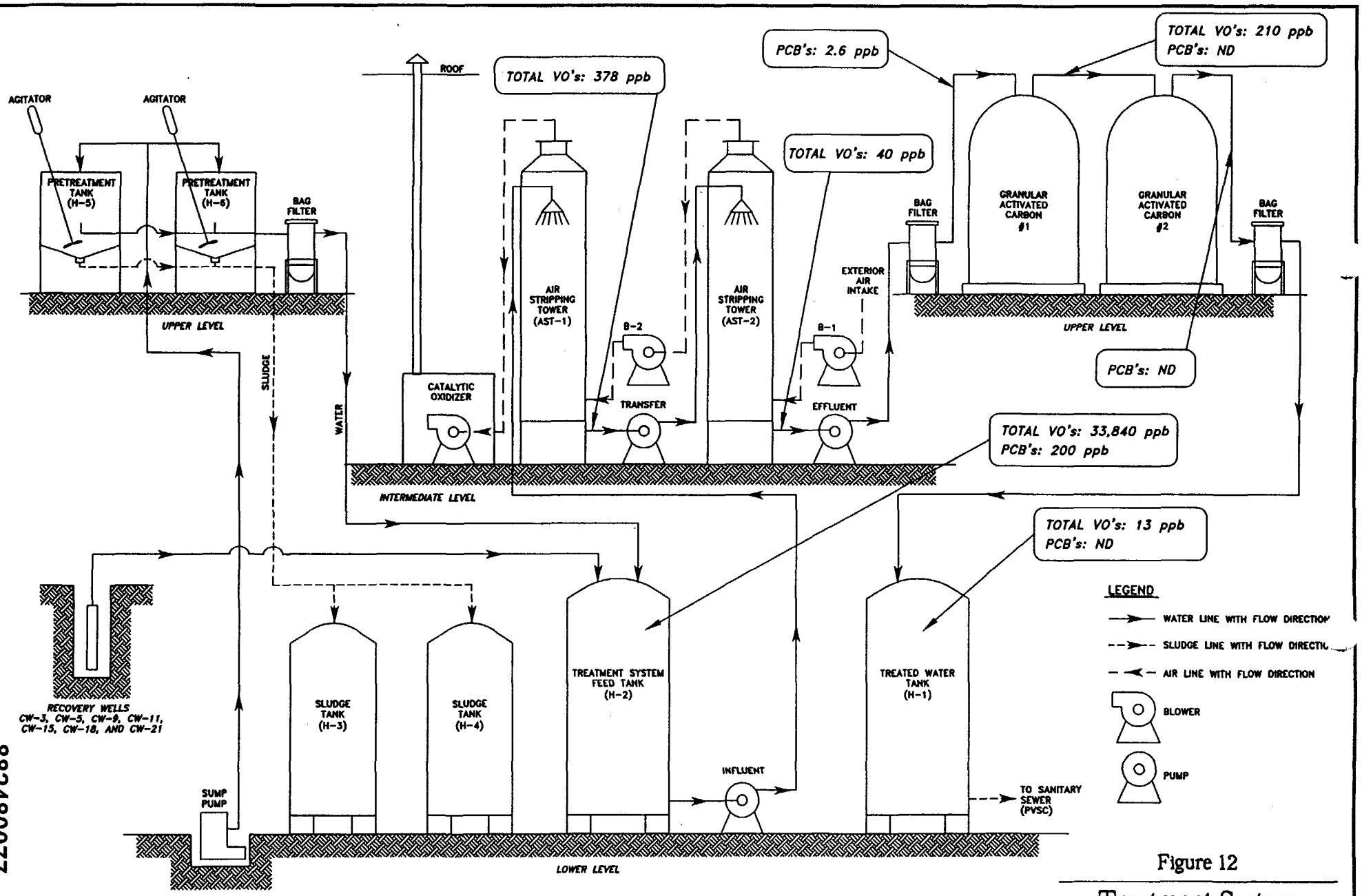
Figure 11

SECTION E-E'

882480076



882480077

Figure 12

Treatment System Pilot Test Results

NOTE: NO WATER FROM THE PRETREATMENT SYSTEM (FROM BASEMENT SEEPAGE) WAS MIXED WITH THE PUMPED GROUND WATER DURING PILOT TEST.

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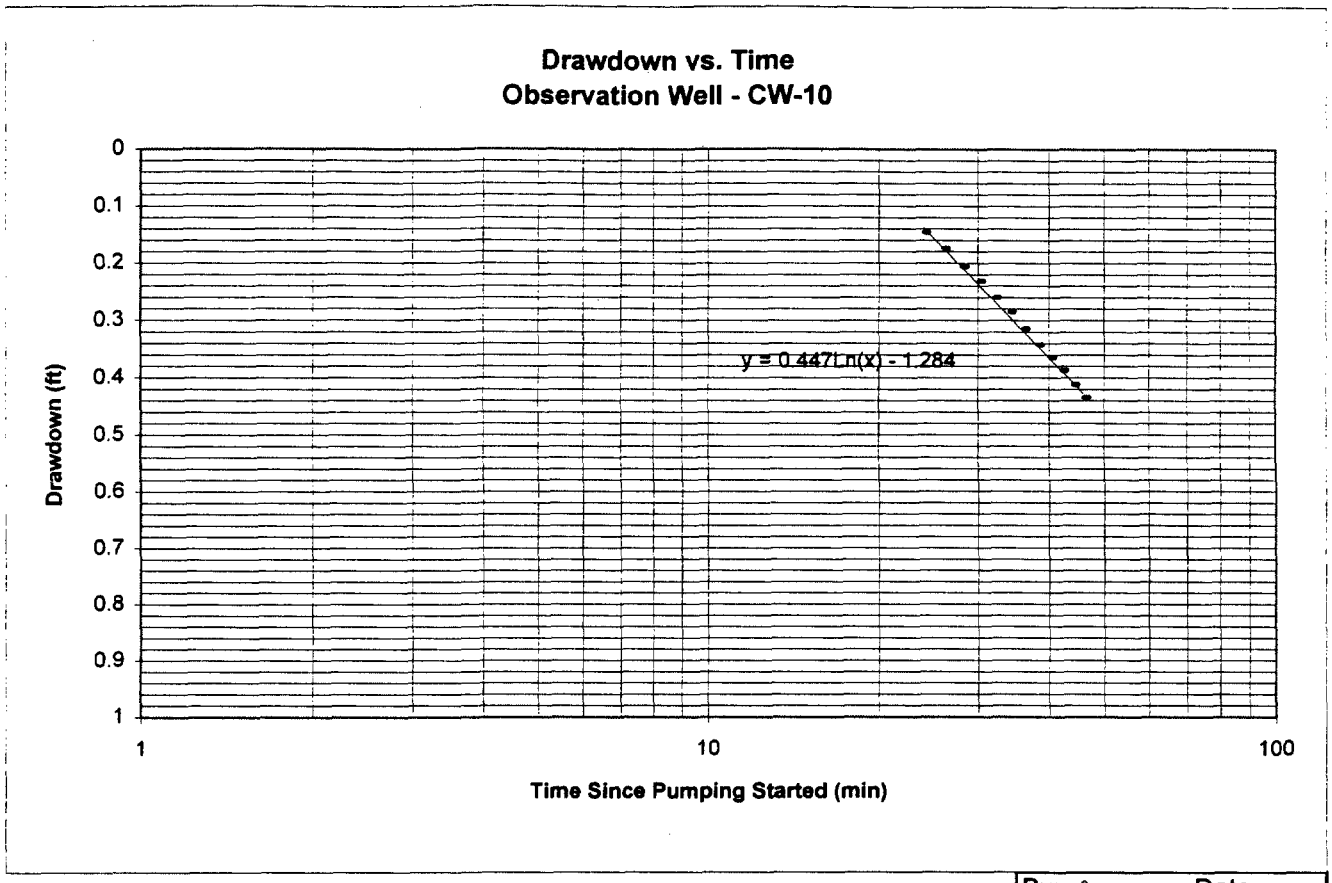
Appendix G

Pump Tests

Pump Test Graphs and Calculations

Jacob Method



By:	Date:
Check: JMB	Date:

T =264Q/Δs Q = 7.0 - gpm

Δs =[0.447Ln(100)-1.284]-[0.447Ln(10)-1.284]

Δs = 1.029 - ft

[redacted]

K = T/b b = 6.5 - ft

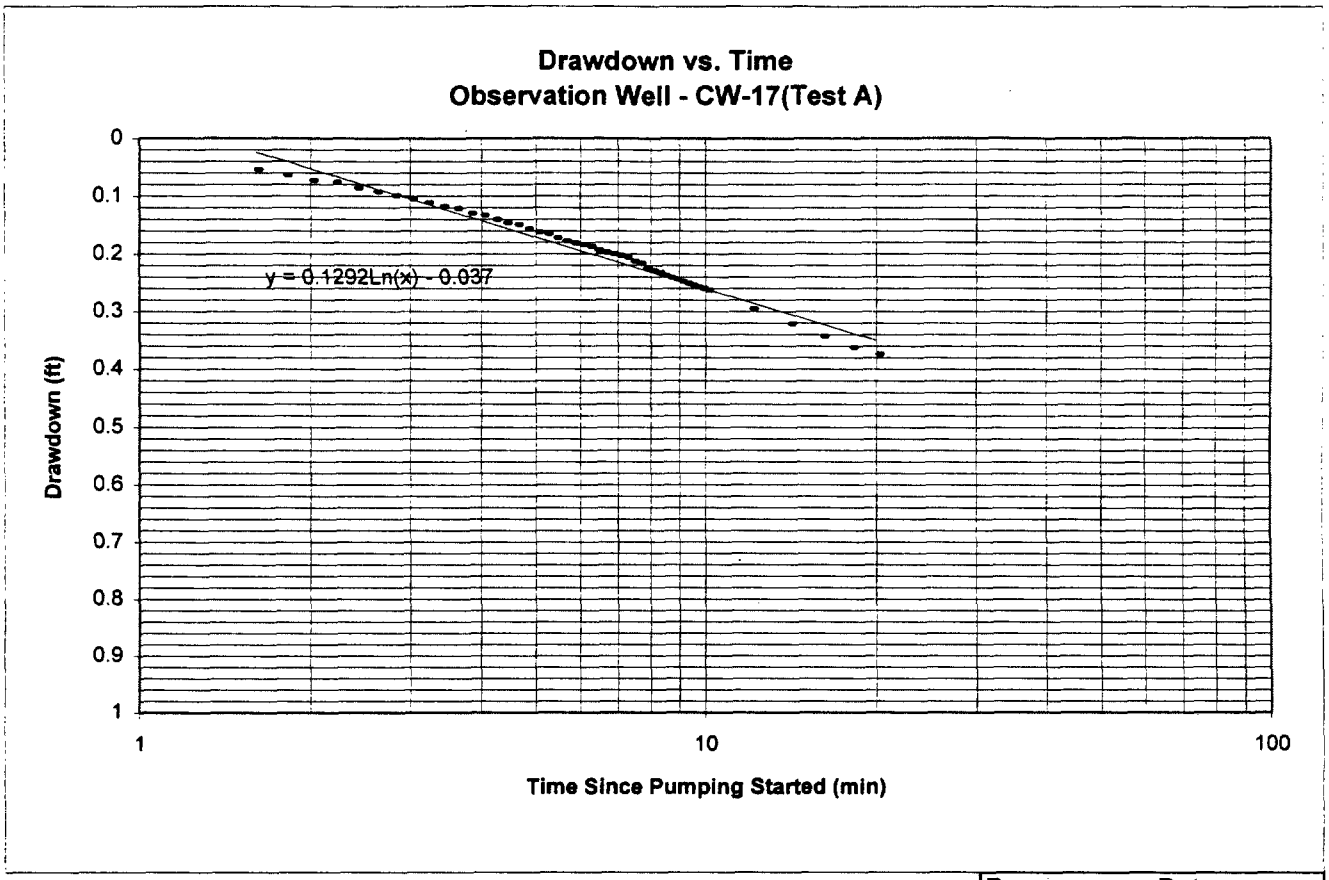
K = 276 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

[redacted]

S = 0.3Tt$_o$/r^2 r = 21 - ft

t$_o$ = 0.012 - day

[redacted]



By:	Date:
Check:	Date:

T =264Q/Δs Q = 1.75 - gpm

Δs =[0.1292Ln(100)-0.037]-[0.1292Ln(10)-0.037]

Δs = 0.297 - ft

[redacted]

K = T/b b = 6.5 - ft

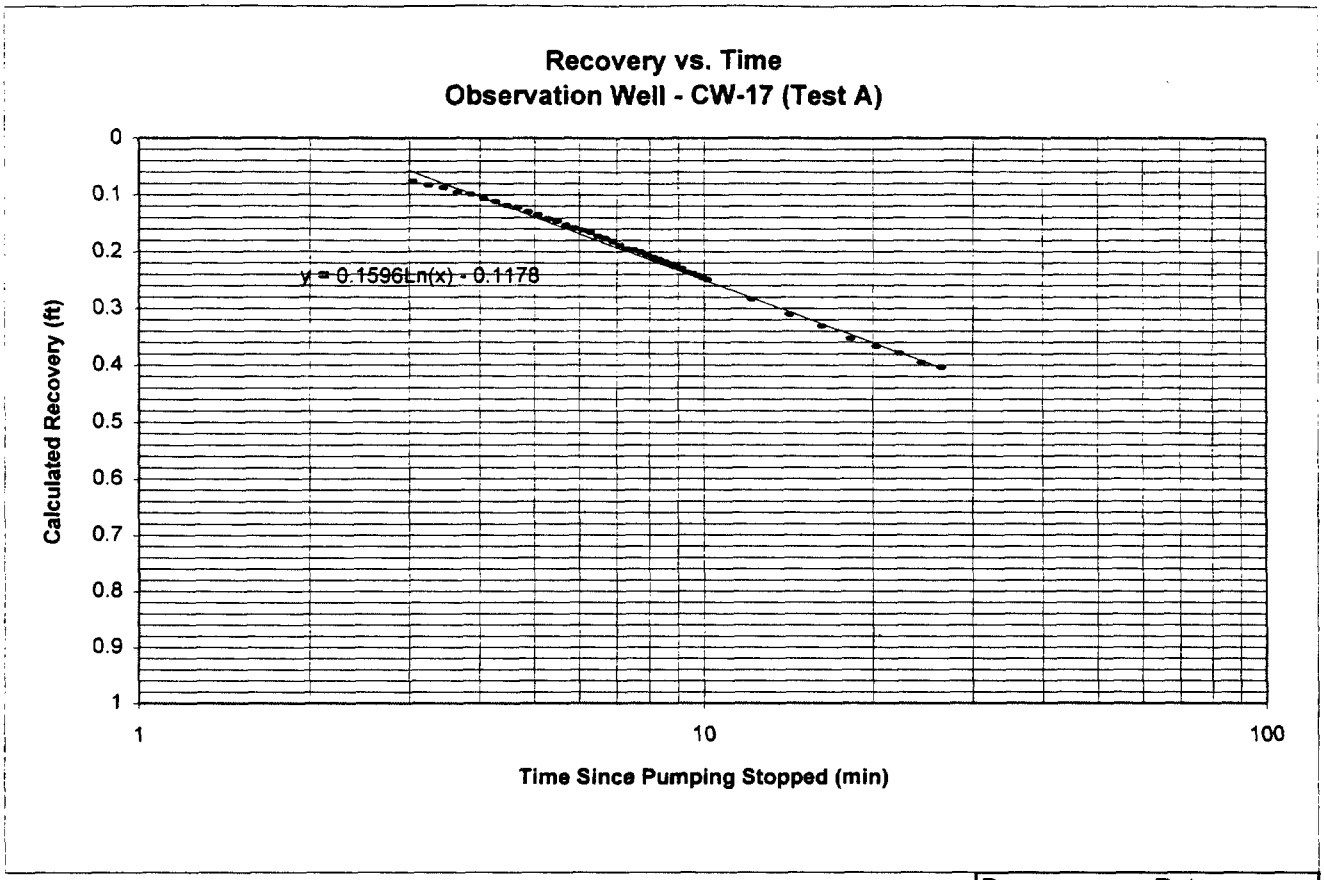
K = 239 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

[redacted]

S = 0.3Tt$_o$/r^2 r = 21 - ft

t$_o$ = 0.00092 - day

[redacted]



By:	Date:
Check:	Date:

T =264Q/Δs Q = 1.75 - gpm

Δs =[0.1596Ln(100)-0.1178]-[0.1596Ln(10)-0.1178]

Δs = 0.3675 - ft

[redacted]

K = T/b b = 6.5 - ft

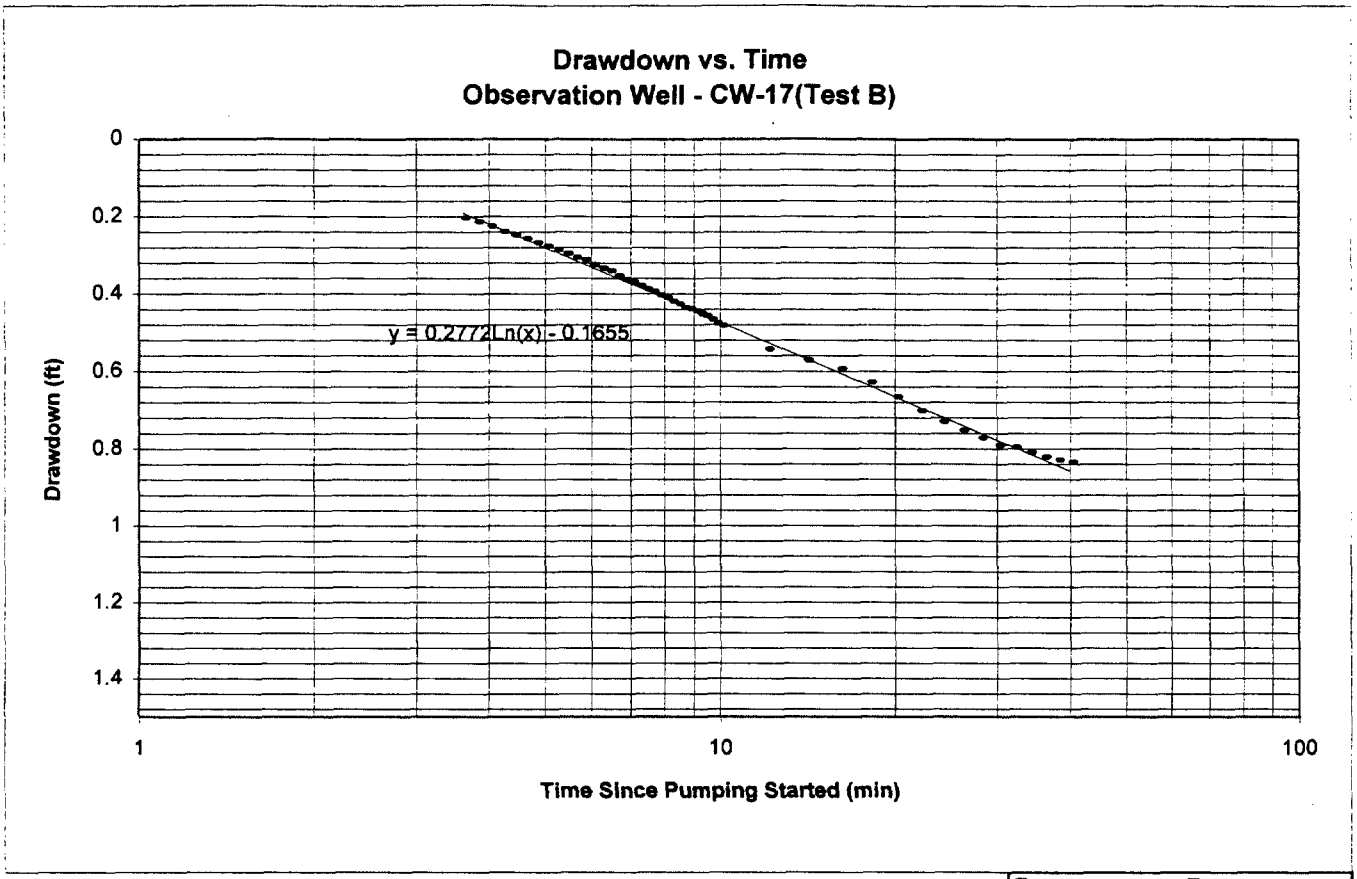
K = 193 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

[redacted]

S = 0.3Tt$_o$/r^2 r = 21 - ft

t$_o$ = 0.00145 - day

[redacted]



By: [illegible]	Date: [illegible]
Check: [illegible]	Date: [illegible]

T =264Q/Δs Q = 3.2 - gpm

Δs =[0.2772Ln(100)-0.1655]-[0.2772Ln(10)-0.1655]

Δs = 0.6383 - ft

[redacted]

K = T/b b = 6.5 - ft

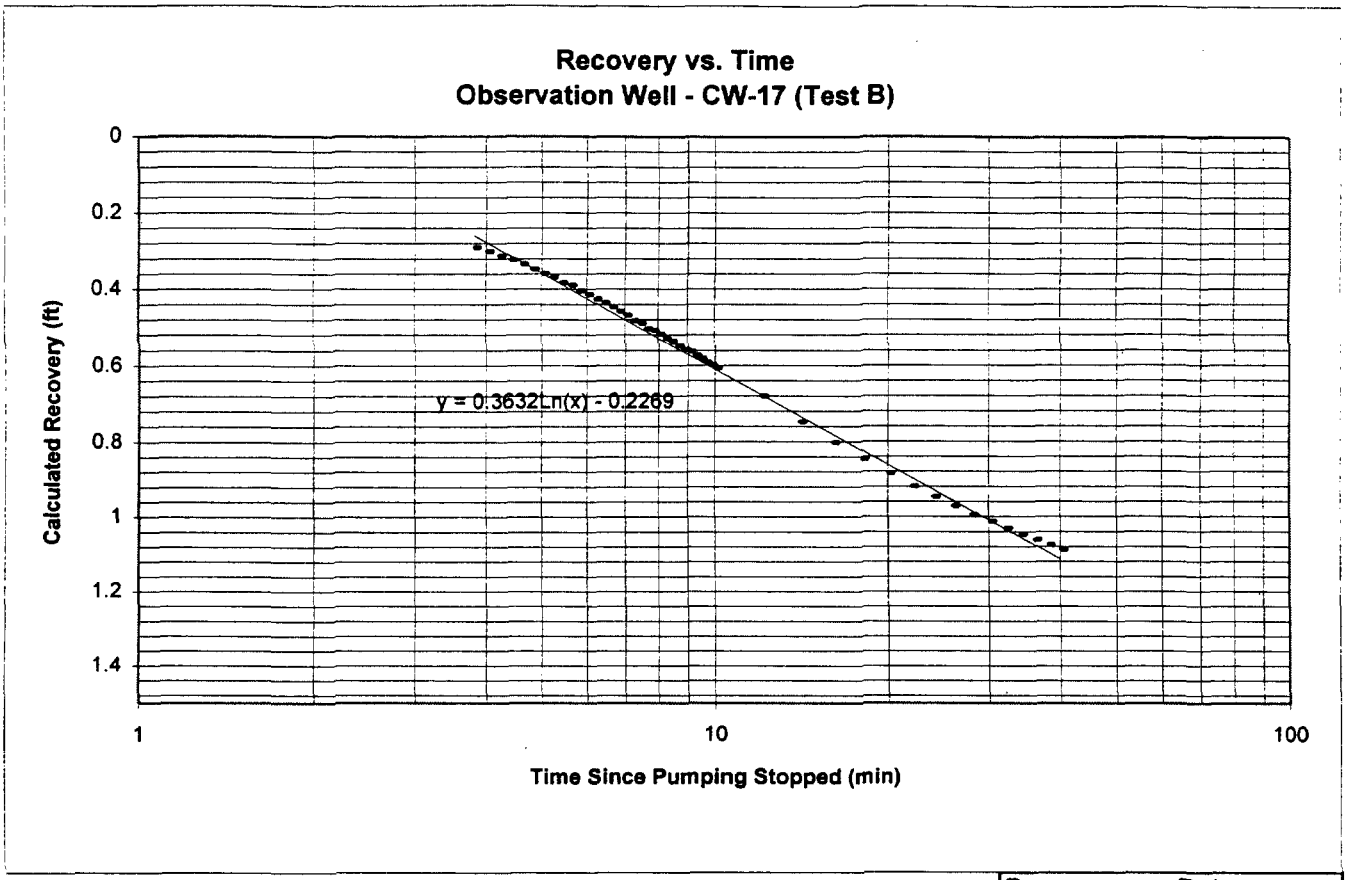
K = 204 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

[redacted]

S = 0.3Tt$_o$/r^2 r = 21 - ft

t$_o$ = 0.00126 - day

[redacted]



By:	Date:
Check:	Date:

T =264Q/Δs Q = 3.2 - gpm

Δs =[0.3632Ln(100)-0.2269]-[0.3632Ln(10)-0.2269]

Δs = 0.8363 - ft

[redacted]

K = T/b b = 6.5 - ft

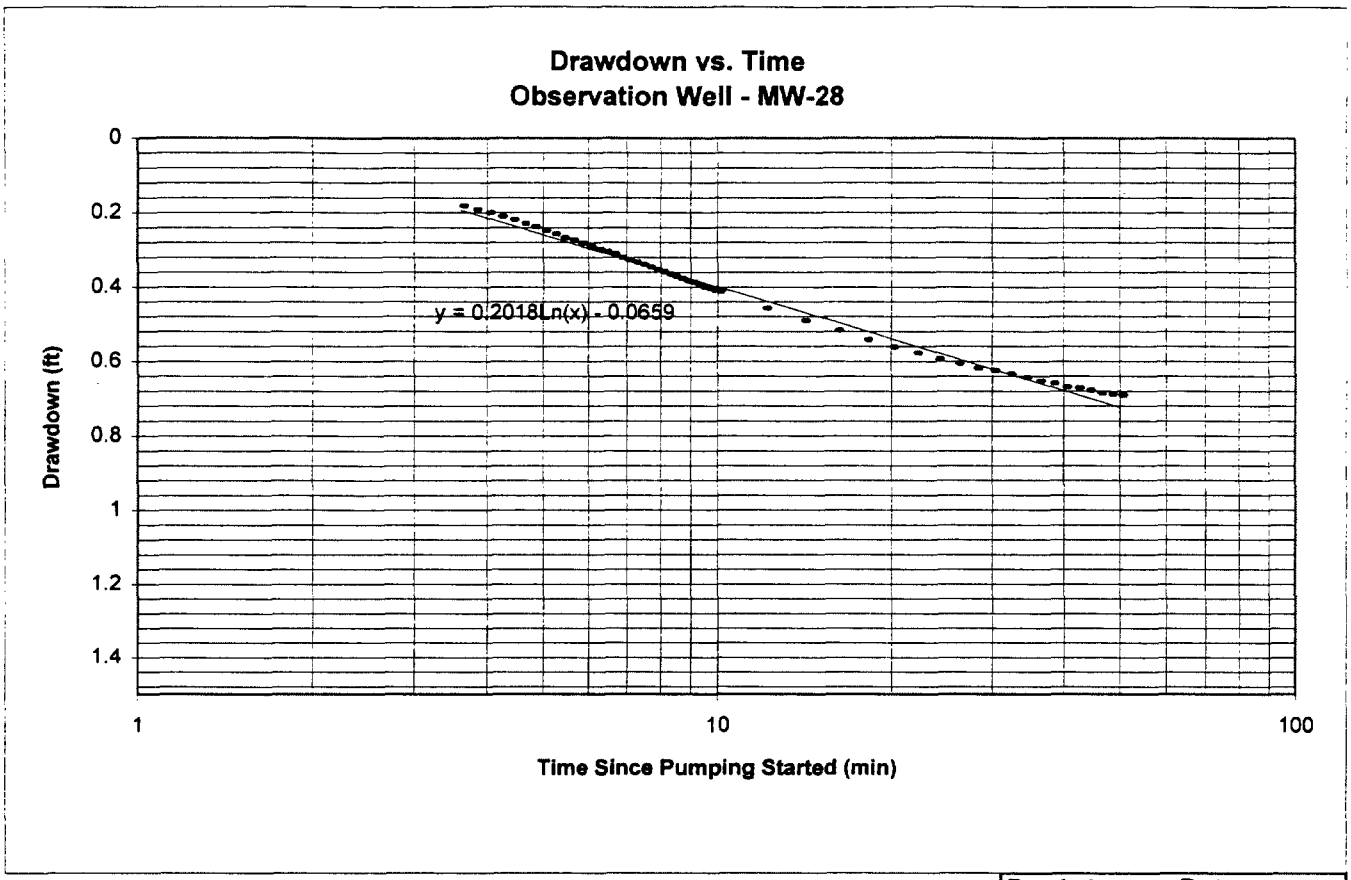
K = 155 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

[redacted]

S = 0.3Tt$_o$/r^2 r = 21 - ft

t$_o$ = 0.00130 - day

[redacted]



By:	Date:
Check: JMB	Date: 1/16/97

T =264Q/Δs Q = 7.0 - gpm

Δs =[0.2018Ln(100)-0.0659]-[0.2018Ln(10)-0.0659]

Δs = 0.4647 - ft

[redacted]

K = T/b b = 6.5 - ft

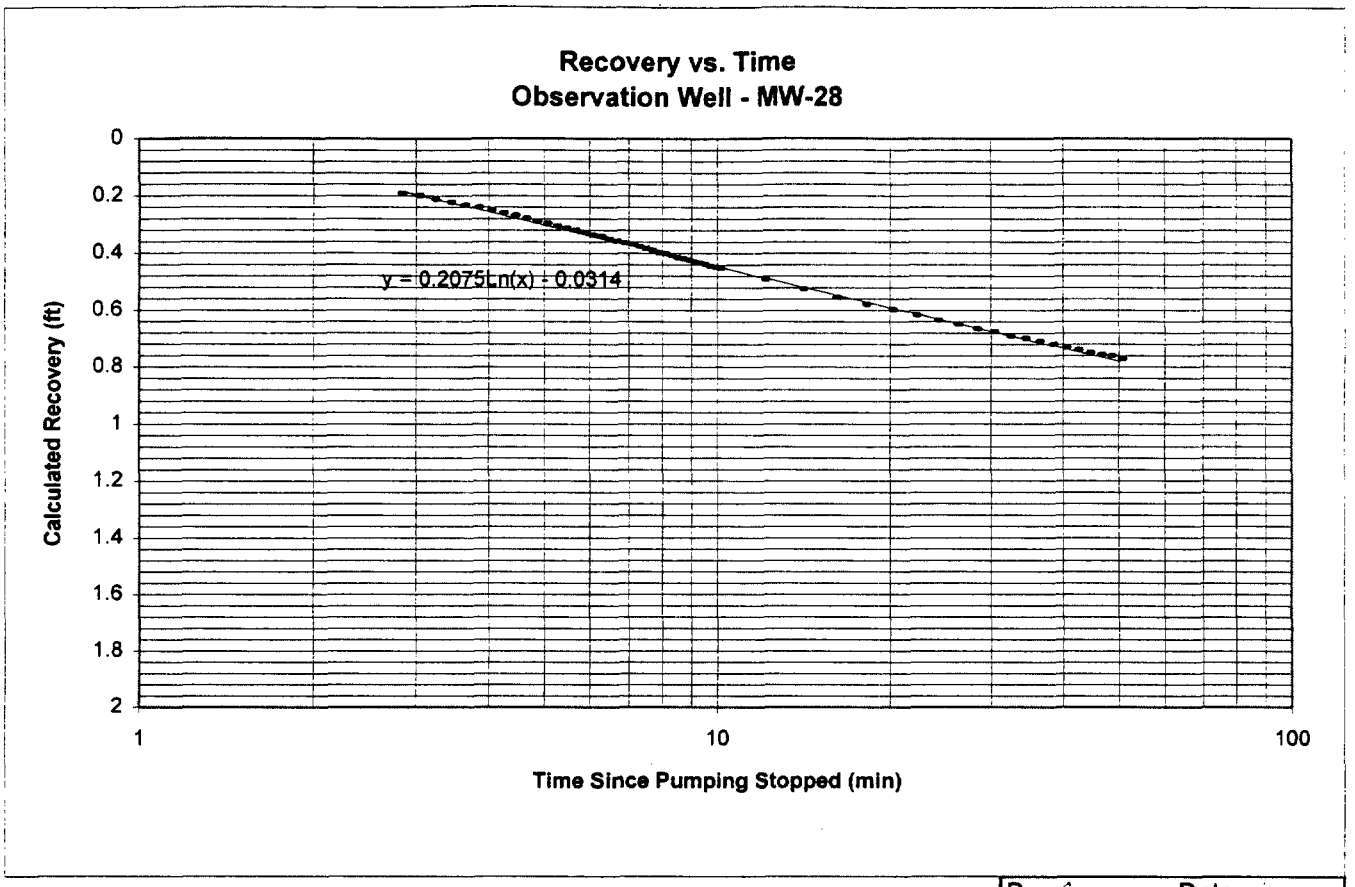
K = 612 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

[redacted]

S = 0.3Tt$_o$/r^2 r = 18 - ft

t$_o$ = 0.00096 - day

[redacted]



By:	Date:
Check:	Date:

T =264Q/Δs Q = 7.0 - gpm

Δs =[0.2075Ln(100)-0.0314]-[0.2075Ln(10)-0.0314]

Δs = 0.4778 - ft

[redacted]

K = T/b b = 6.5 - ft

K = 595 - gpd/ft^2 (1-gpd/ft^2 = 4.720 x 10^{-5}-cm/sec)

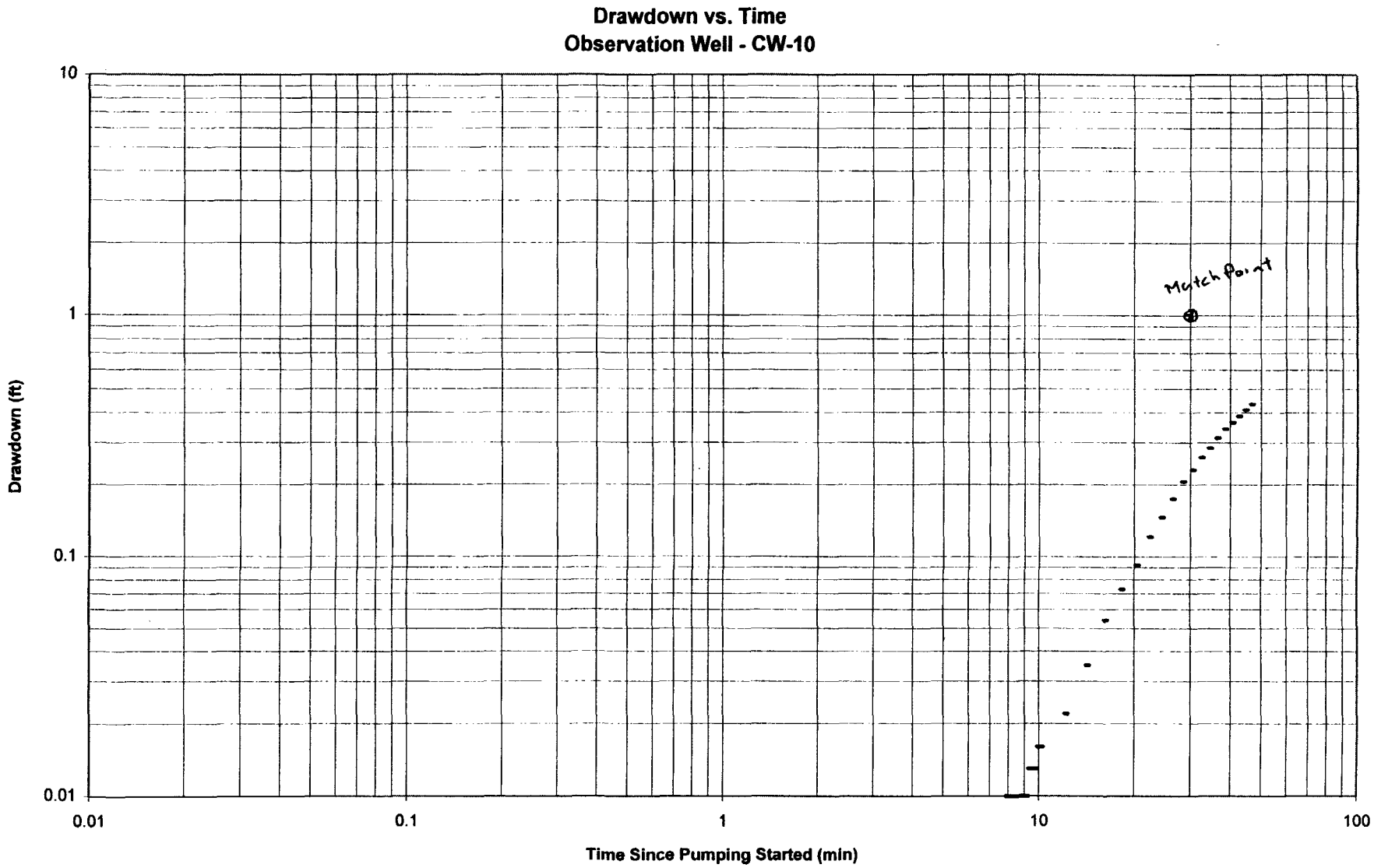
[redacted]

S = 0.3Tt$_o$/r^2 r = 18 - ft

t$_o$ = 0.00081 - day

[redacted]

Theis Method


Drawdown vs. Time
Observation Well - CW-10
Drawdown (ft)
10
1
0.1
0.01
0.01
0.1
1
10
100
Time Since Pumping Started (min)
Match Point

T, K and S Calculations By Theis Curve Fitting Method
Drawdown vs. Time
Observation Well CW-10

W(u) =	1	
1/u =	1	
s =	1	-ft
t =	30	-min
	0.0208	-days
Q =	7	-gpm
b =	6.5	-ft
r =	21	-ft

T = [114.6(Q)W(u)]/s

T= 802 -gpd/ft

K=T/b

K= 123 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

K= 4.720x10^{-5} cm/sec

S = uTt/1.87r^2

S= 0.020

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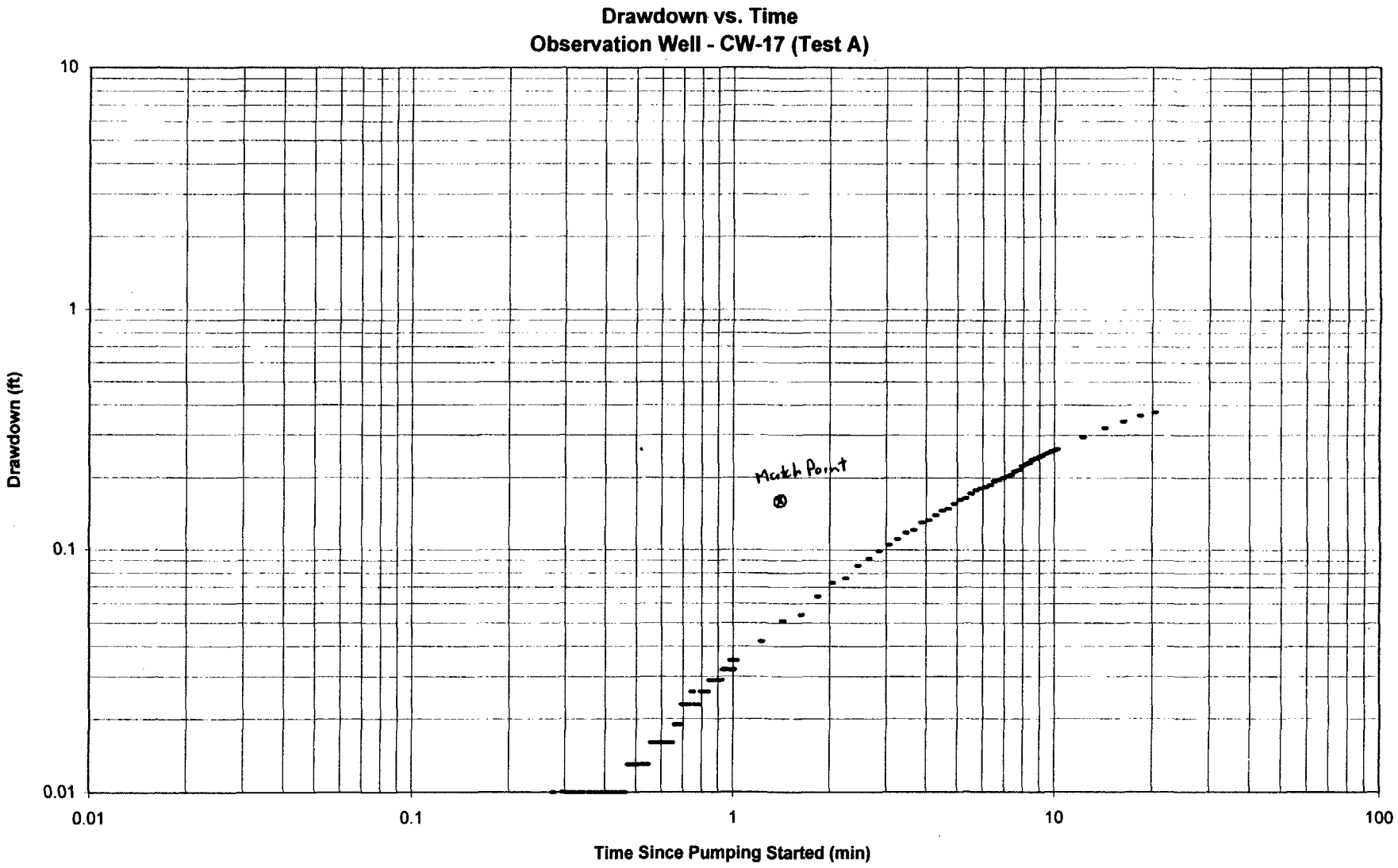

Drawdown vs. Time
Observation Well - CW-17 (Test A)
Drawdown (ft)
10
1
0.1
0.01
0.01
0.1
1
10
100
Time Since Pumping Started (min)
Match Point

882480090

T, K and S Calculations By Theis Curve Fitting Method
Drawdown vs. Time
Observation Well CW-17 (Test A)

W(u) =	1	
1/u =	1	
s =	0.15	-ft
t =	1.2	-min
	0.00083	-days
Q =	1.75	-gpm
b =	6.5	-ft
r =	21	-ft

$T = [114.6(Q)W(u)]/s$

[redacted]

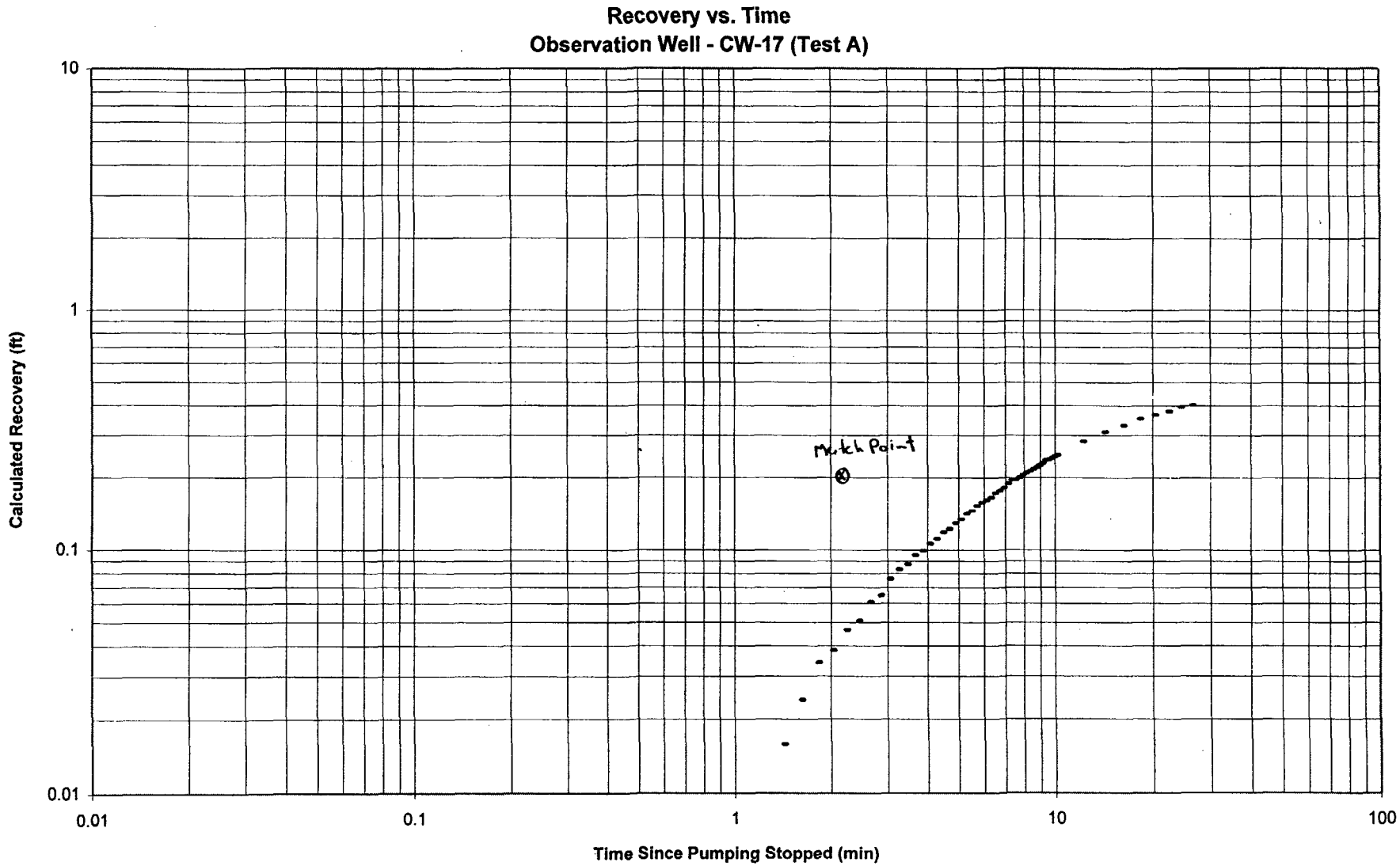
K=T/b

K= 206 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

[redacted]

$S = uTt/1.87r^2$

[redacted]


Recovery vs. Time
Observation Well - CW-17 (Test A)
Calculated Recovery (ft)
10
1
0.1
0.01
0.01
0.1
1
10
100
Time Since Pumping Stopped (min)
Match Point

T, K and S Calculations By Theis Curve Fitting Method
Recovery vs. Time
Observation Well CW-17 (Test A)

W(u) =	1	
1/u =	1	
s =	0.21	-ft
t =	2.2	-min
	0.00153	-days
Q =	1.75	-gpm
b =	6.5	-ft
r =	21	-ft

T = [114.6(Q)W(u)]/s

[redacted]

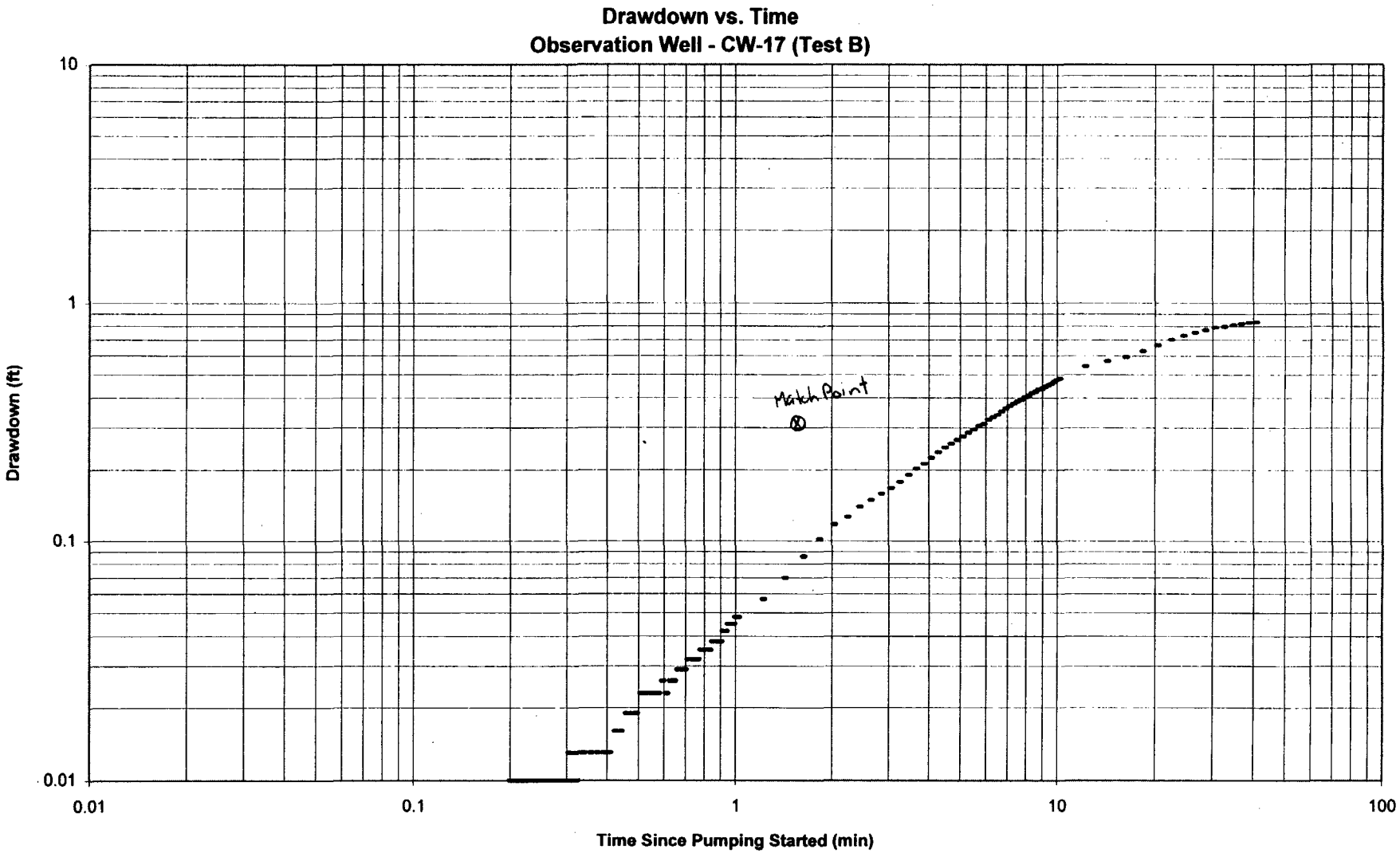
K=T/b

K= 147 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

[redacted]

S = uTt/1.87r^2

[redacted]


Drawdown vs. Time
Observation Well - CW-17 (Test B)
Drawdown (ft)
10
1
0.1
0.01
0.01
0.1
1
10
100
Time Since Pumping Started (min)
Match Point

T, K and S Calculations By Theis Curve Fitting Method
Drawdown vs. Time
Observation Well CW-17 (Test B)

W(u) =	1	
1/u =	1	
s =	0.32	-ft
t =	1.4	-min
	0.00097	-days
Q =	3.2	-gpm
b =	6.5	-ft
r =	21	-ft

T = [114.6(Q)W(u)]/s

T= 1146 gpd/ft

K=T/b

K= 176 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

K= 0.0083 cm/sec

S = uTt/1.87r^2

S= 0.0014

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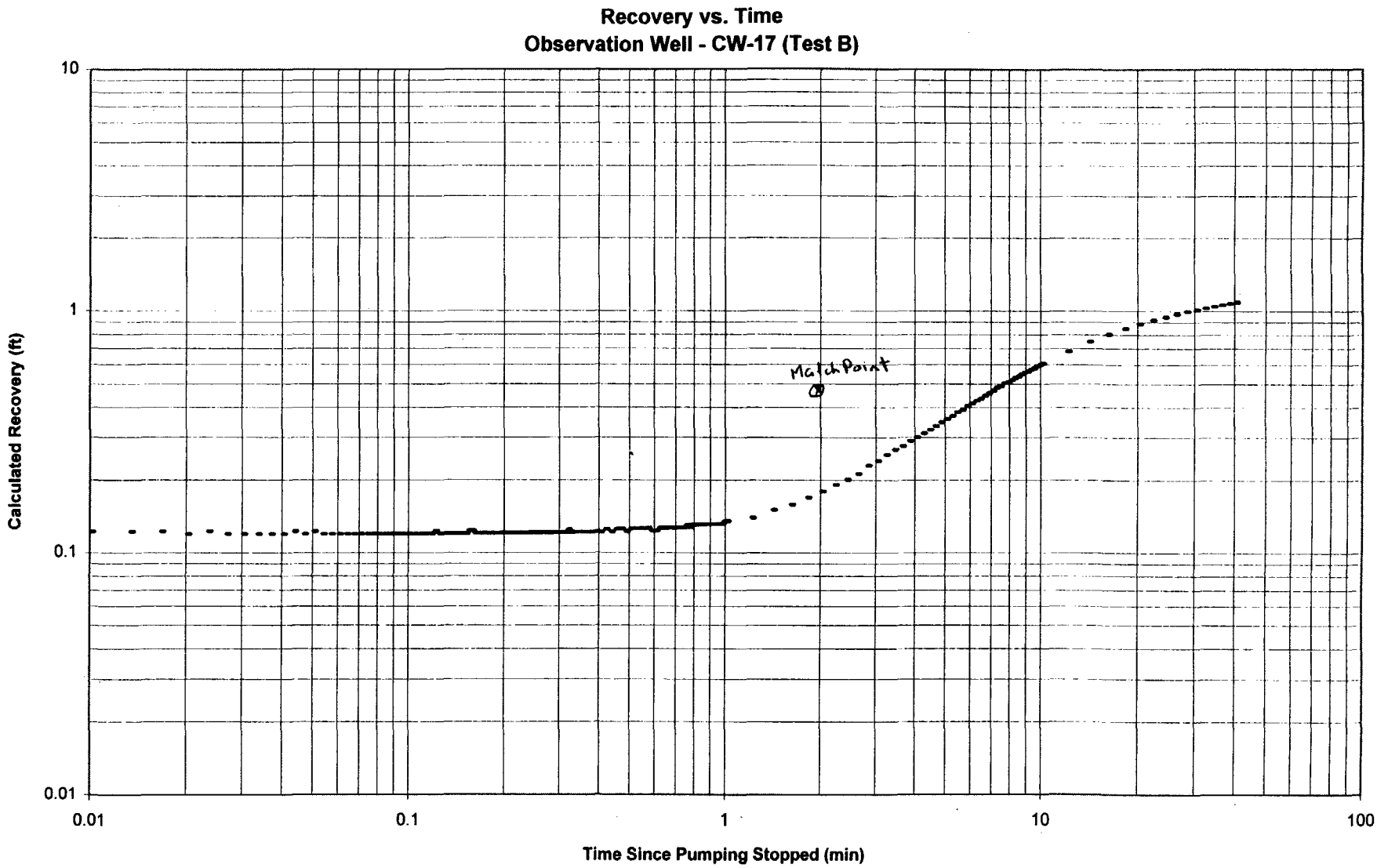

Recovery vs. Time
Observation Well - CW-17 (Test B)
Calculated Recovery (ft)
10
1
0.1
0.01
0.01
0.1
1
10
100
Time Since Pumping Stopped (min)
MatchPoint

T, K and S Calculations By Theis Curve Fitting Method
Recovery vs. Time
Observation Well CW-17 (Test B)

W(u) =	1	
1/u =	1	
s =	0.48	-ft
t =	1.9	-min
	0.00132	-days
Q =	3.2	-gpm
b =	6.5	-ft
r =	21	-ft

T = [114.6(Q)W(u)]/s

[redacted]

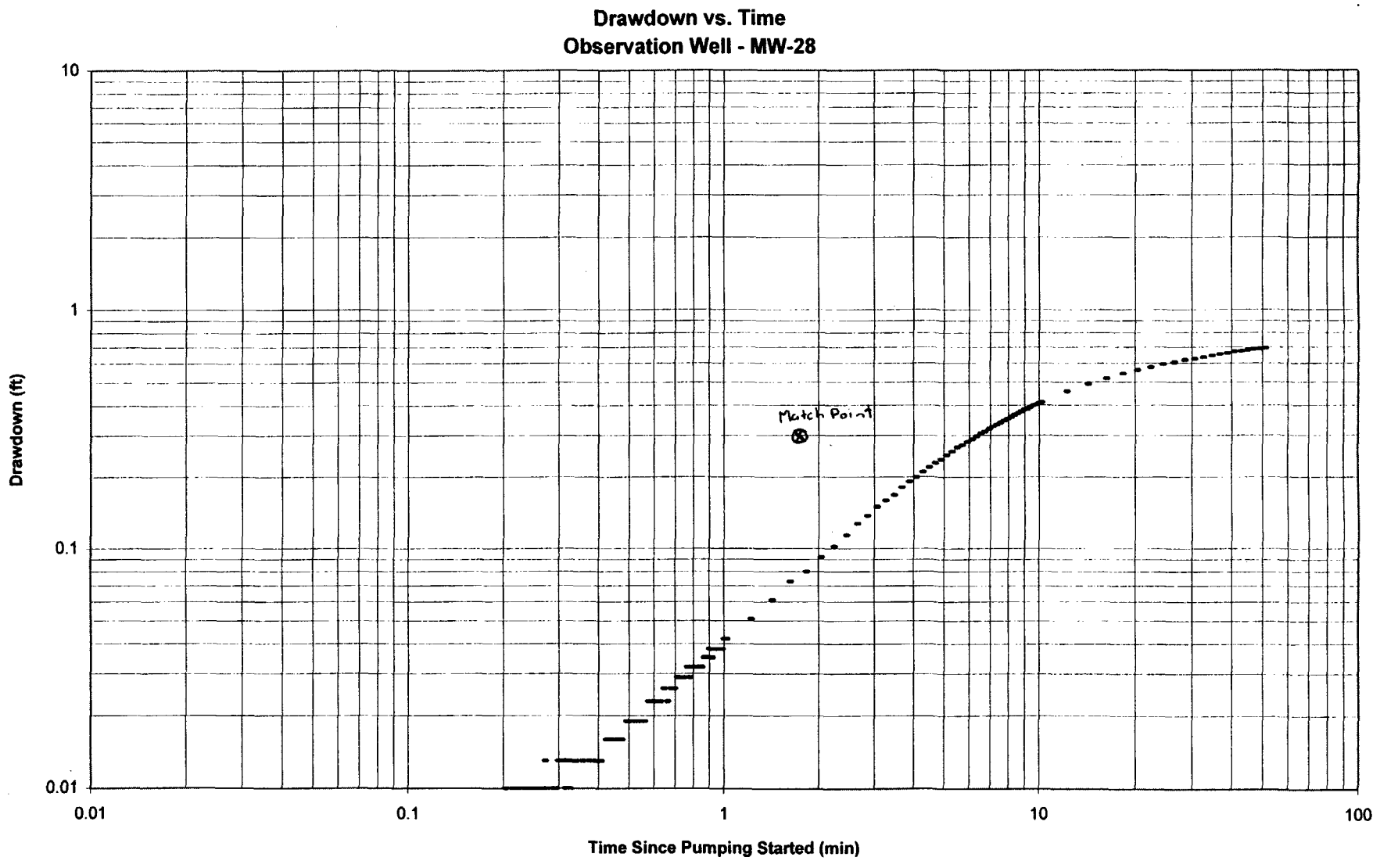
K=T/b

K= 118 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

[redacted]

S = uTt/1.87r^2

[redacted]


Drawdown vs. Time
Observation Well - MW-28
Drawdown (ft)
10
1
0.1
0.01
0.01
0.1
1
10
100
Time Since Pumping Started (min)
Match Point

T, K and S Calculations By Theis Curve Fitting Method
Drawdown vs. Time
Observation Well MW-28

W(u) =	1	
1/u =	1	
s =	0.3	-ft
t =	1.6	-min
	0.00111	-days
Q =	7	-gpm
b =	6.5	-ft
r =	18	-ft

T = [114.6(Q)W(u)]/s

T= 2674 gpd/ft

K=T/b

K= 411 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

K= 0.0194 cm/sec

S = uTt/1.87r^2

S= 0.0049

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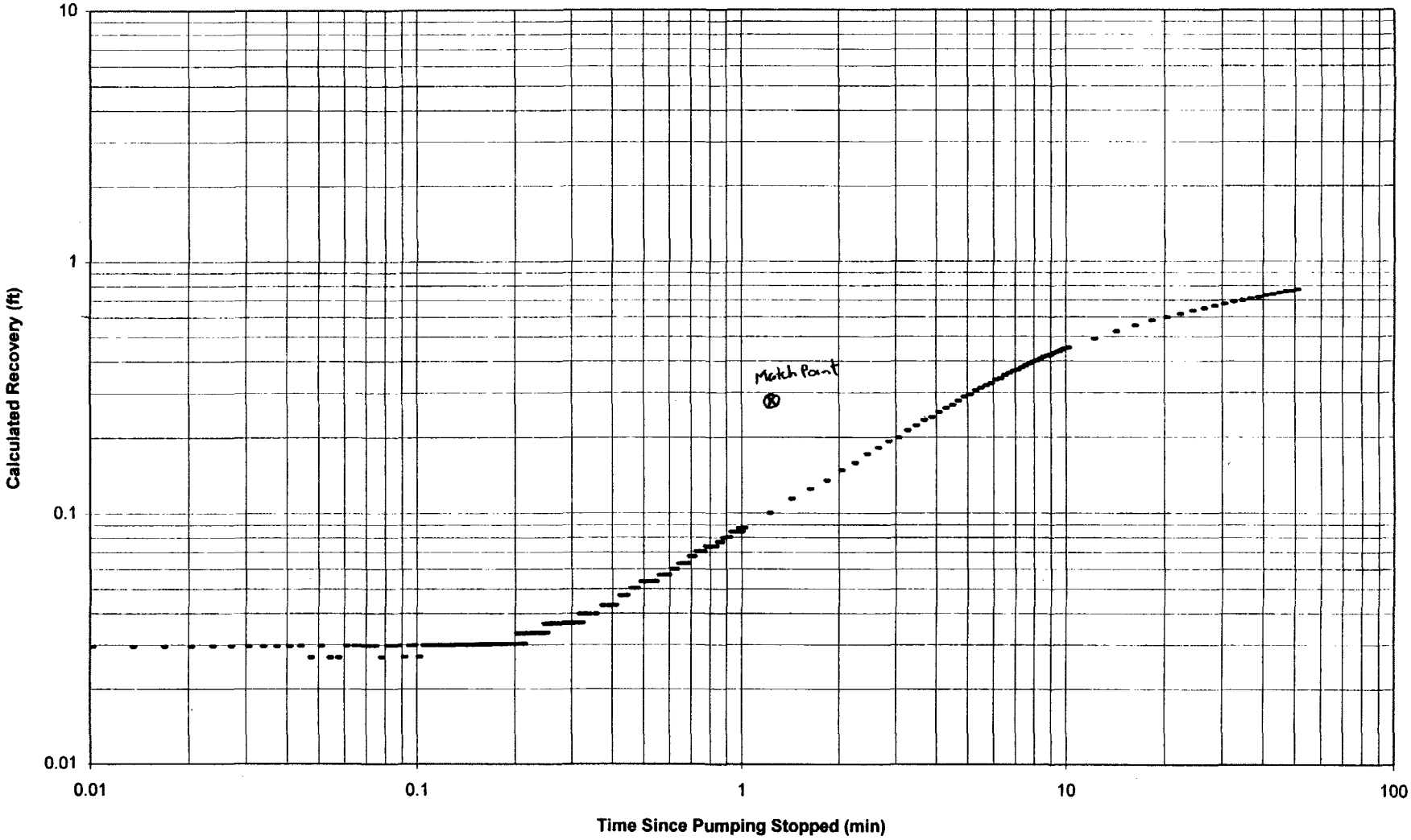
Recovery vs. Time
Observation Well - MW-28



T, K and S Calculations By Thies Curve Fitting Method
Recovery vs. Time
Observation Well MW-28

W(u) =	1	
1/u =	1	
s =	0.26	-ft
t =	1.1	-min
	0.00076	-days
Q =	7	-gpm
b =	6.5	-ft
r =	18	-ft

T = [114.6(Q)W(u)]/s

T= [illegible] 3085 gpd/ft

K=T/b

K= 475 -gpd/ft^2 (1-gpd/ft^2 = 4.720x10^{-5} cm/sec)

K= [illegible] 0.022 cm/sec

S = uTt/1.87r^2

S= [illegible] 0.0099

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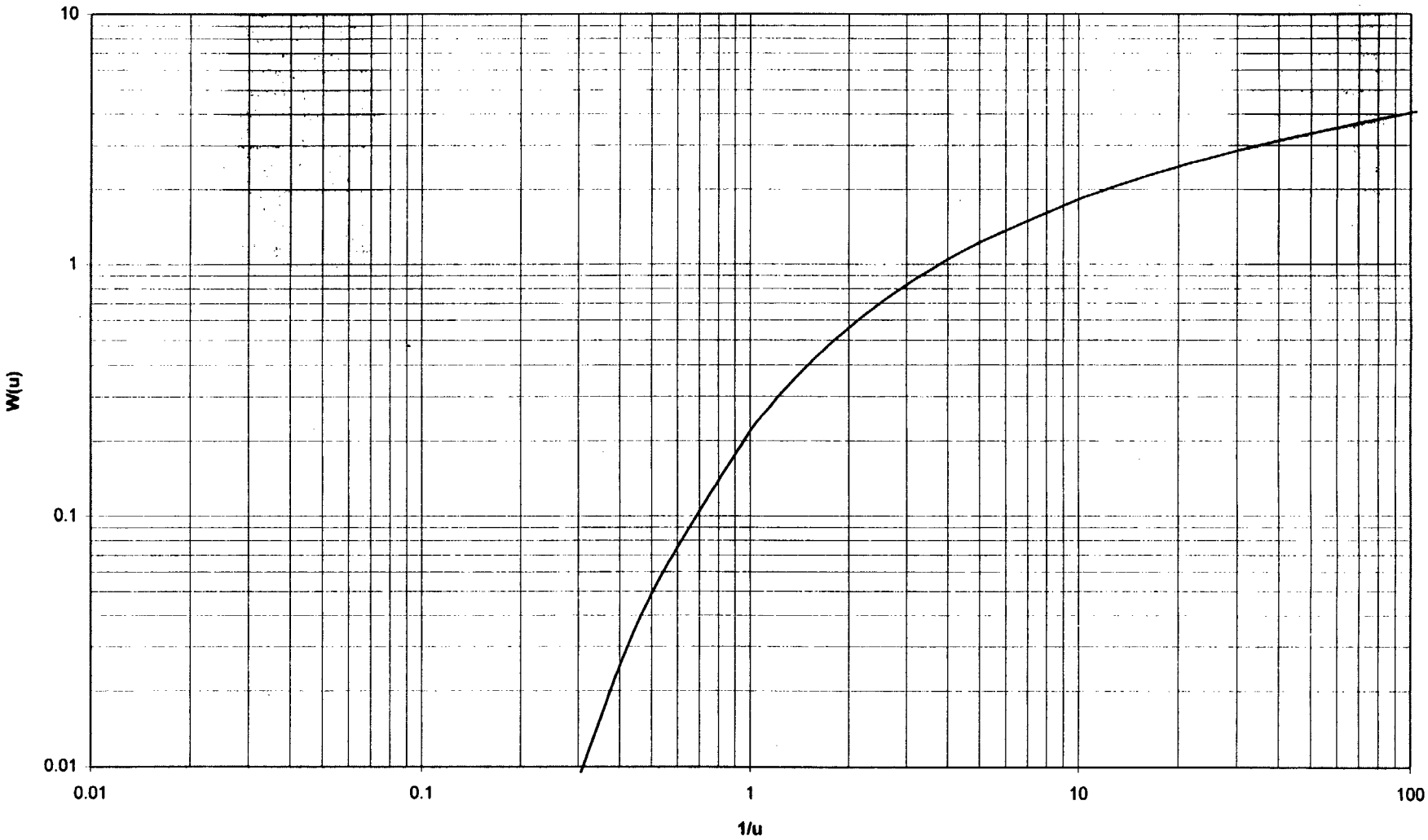
882480101

Theis Curve



Appendix H

Schedule Estimates

Table 9. Estimated Schedule of Remaining Remedial Activities

TABLE 9. ESTIMATED SCHEDULE OF REMAINING REMEDIAL ACTIVITIES
Hexcel Facility
Lodi, New Jersey

GEO Engineering
May 1997
File: 94039\progrpt\sched6.xls

TASK DESCRIPTION	1997 1	2	3	4	5	6	7	8	9	10	11	12
GROUND WATER REMEDIATION												
DNAPL/LNAPL recovery (temporary)												
Recover water from basement Bldg. 1												
Obtain off-site data from Army Corps well												
Reevaluate ground water remedial plans *												
Prep. design proposal for recov. sys. *												
NJDEP review of design proposal *												
Install permanent recovery system *												
Operate and maintain recovery system *												
Install deep well in vicinity of MW-1												
Replace well MW-26												
Prepare a report of ground water results												
CLEANING OF SEWER LINE												
Cleanout/abandonment of sewer line *												
Collect samples (and lab. analysis) *												
Disposal of sludge/debris *												
SOIL REMEDIATION												
Reevaluate soil remedial plans *												
Prepare a report of soil results												
SEDIMENT SAMPLING												
Collect and analyze samples												
REPORTING												
Prepare quarterly progress reports												
Prepare final report *												
NJDEP review and site inspection *												
Case closure *												

* Timing is dependent on availability of regional information.

882480104

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (908) 549-3900
Fax: (908) 549-3679

November 12, 1996

GeoEngineering, Inc.
150 Mineral Springs Drive
Dover, NJ 07810

Attention: Mr. Bob Shusko

Re: Job No. Q757 - Hexcel Pilot Test

Dear Mr. Shusko:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 22, 1996:

Lab No.	Client ID	Analysis Required
66698	H-2	PP VOA+15, PP BNA+25, PCBs, Fe, Phenols, TSS
66699	Post-AST-1	PP VOA+15
66700	Post-AST-2	PP VOA+15
66701	Pre-Carbon-1	PCBs
66702	Post-Carbon-1	PP VOA+15, PCBs
66703	Post-Carbon-2	PCBs
66705	H-1	PP VOA+15, PCBs, TSS, BOD

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Robert McGrady, at (908) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

ENVIROTECH RESEARCH, INC.

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample No: **66698**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: e2103.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 250.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	230
Bromomethane	ND	68
Vinyl Chloride	ND	98
Chloroethane	ND	260
Methylene Chloride	11000	260
Trichlorofluoromethane	ND	58
1,1-Dichloroethene	ND	140
1,1-Dichloroethane	ND	78
trans-1,2-Dichloroethene	ND	75
cis-1,2-Dichloroethene	16000	250
Chloroform	ND	50
1,2-Dichloroethane	ND	55
1,1,1-Trichloroethane	280	50
Carbon Tetrachloride	ND	40
Bromodichloromethane	ND	48
1,2-Dichloropropane	ND	120
cis-1,3-Dichloropropene	ND	82
Trichloroethene	280	100
Dibromochloromethane	ND	58
1,1,2-Trichloroethane	ND	110
Benzene	240	60
trans-1,3-Dichloropropene	ND	78
2-Chloroethyl Vinyl Ether	ND	120
Bromoform	ND	75
Tetrachloroethene	1500	25
1,1,2,2-Tetrachloroethane	ND	82
Toluene	440	45
Chlorobenzene	4100	35
Ethylbenzene	ND	60
Xylene (Total)	ND	250

882480106

ENVIROTECH RESEARCH, INC.

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample No: **66698**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: E2103.D

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 250.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample No: **66698**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Extracted: 10-24-96
Date Analyzed: 11-03-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 10.0
Lab File ID: t7789.d

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Phenol	56	12
2-Chlorophenol	29	23
2-Nitrophenol	ND	33
2,4-Dimethylphenol	ND	30
2,4-Dichlorophenol	ND	32
4-Chloro-3-methylphenol	ND	30
2,4,6-Trichlorophenol	ND	32
2,4-Dinitrophenol	ND	61
4-Nitrophenol	ND	13
4,6-Dinitro-2-methylphenol	ND	43
Pentachlorophenol	ND	27

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample No: **66698**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Extracted: 10-24-96
Date Analyzed: 11-03-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 10.0
Lab File ID: t7789.d

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
N-Nitrosodimethylamine	ND	7.5
bis(2-Chloroethyl)ether	ND	13
1,3-Dichlorobenzene	ND	37
1,4-Dichlorobenzene	ND	37
1,2-Dichlorobenzene	370	36
bis(2-chloroisopropyl)ether	ND	15
N-Nitroso-di-n-propylamine	ND	16
Hexachloroethane	ND	26
Nitrobenzene	ND	16
Isophorone	ND	18
bis(2-Chloroethoxy)methane	ND	18
1,2,4-Trichlorobenzene	ND	40
Naphthalene	95	27
Hexachlorobutadiene	ND	23
Hexachlorocyclopentadiene	ND	17
2-Chloronaphthalene	ND	34
Dimethylphthalate	ND	14
Acenaphthylene	ND	22
2,6-Dinitrotoluene	ND	16
Acenaphthene	ND	30
2,4-Dinitrotoluene	ND	16
Diethylphthalate	ND	12
4-Chlorophenyl-phenylether	ND	30
Fluorene	ND	21
N-Nitrosodiphenylamine	ND	12
4-Bromophenyl-phenylether	ND	21
Hexachlorobenzene	ND	13
Phenanthrene	ND	11

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample No: **66698**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Extracted: 10-24-96
Date Analyzed: 11-03-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 10.0
Lab File ID: t7789.d

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Anthracene	ND	12
Di-n-butylphthalate	ND	10
Fluoranthene	ND	12
Pyrene	ND	6.4
Benzidine	ND	5.4
Butylbenzylphthalate	ND	7.1
3,3'-Dichlorobenzidine	ND	15
Benzo(a)anthracene	ND	9.0
Chrysene	ND	9.2
bis(2-Ethylhexyl)phthalate	ND	12
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	9.9
Benzo(a)pyrene	ND	8.6
Indeno(1,2,3-cd)pyrene	ND	7.5
Dibenz(a,h)anthracene	ND	9.0
Benzo(g,h,i)perylene	ND	8.0

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample No: **66698**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Extracted: 10-24-96
Date Analyzed: 11-03-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 10.0
Lab File ID: T7789.D

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Toluene	7.90	240	
2.	Tetrachloroethylene	9.06	560	
3.	Methylpyridine isomer	9.29	91	
4.	Benzene, chloro-	10.26	2400	
5.	Cyclohexanol	11.36	150	
6.	Unknown	13.57	130	
7.	Unknown	13.97	220	
8.	Unknown	14.04	310	
9.	Unknown Alkane	14.07	190	
10.	Unknown	14.30	330	
11.	2-Pyrrolidinone, 1-methyl-	14.88	330	
12.	Unknown	16.60	200	
13.	Benzoic Acid	17.59	600	
14.	Unknown	18.04	470	
15.	Unknown	18.28	280	
16.	Bromodimethylbenzene isomer	18.34	460	
17.	Benzeneacetic acid	19.04	440	
18.	Benzenesulfonamide, N-butyl-	27.71	340	
19.	Benzeneacetaldehyde, .alpha.-methyl-	28.35	150	
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION: 7891

Client ID: **H-2**
Site: Hexcel Pilot Test

Lab Sample ID: **66698D1**
Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Date Extracted: 10/23/96
Date Analyzed: 10/30/96
GC Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 940 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 100.0
Lab File ID: zr016376.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	20
Aroclor-1221	ND	40
Aroclor-1232	ND	10
Aroclor-1242	200	40
Aroclor-1248	ND	30
Aroclor-1254	ND	40
Aroclor-1260	ND	10

Client ID: **H-2**
Site: **Hexcel Pilot Test**

Lab Sample No: 66698
Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	M
Iron	32500	95.0	P

M Column - Method Code (See Section 2 of Report)

882480113

Site: Hexcel Pilot Test

Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Matrix: WATER

Date Extracted: 10/29/96
Date Analyzed: 10/29/96
QA Batch: 1313

TOTAL PHENOLS

Envirotech Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
66698	H-2	1.0	0.7

Quantitation Limit for Total Phenols is 0.050 mg/l for an undiluted sample.

Client ID: **Post-AST-1**
Site: Hexcel Pilot Test

Lab Sample No: **66699**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: e2100.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	0.9
Bromomethane	ND	0.3
Vinyl Chloride	ND	0.4
Chloroethane	ND	1.0
Methylene Chloride	80	1.0
Trichlorofluoromethane	ND	0.2
1,1-Dichloroethene	ND	0.6
1,1-Dichloroethane	0.5	0.3
trans-1,2-Dichloroethene	ND	0.3
cis-1,2-Dichloroethene	110	1.0
Chloroform	ND	0.2
1,2-Dichloroethane	0.6	0.2
1,1,1-Trichloroethane	1.6	0.2
Carbon Tetrachloride	ND	0.2
Bromodichloromethane	ND	0.2
1,2-Dichloropropane	ND	0.5
cis-1,3-Dichloropropene	ND	0.3
Trichloroethene	2.0	0.4
Dibromochloromethane	ND	0.2
1,1,2-Trichloroethane	ND	0.4
Benzene	1.6	0.2
trans-1,3-Dichloropropene	ND	0.3
2-Chloroethyl Vinyl Ether	ND	0.5
Bromoform	ND	0.3
Tetrachloroethene	9.5	0.1
1,1,2,2-Tetrachloroethane	ND	0.3
Toluene	3.4	0.2
Chlorobenzene	39	0.1
Ethylbenzene	ND	0.2
Xylene (Total)	1.2	1.0

ENVIROTECH RESEARCH, INC.

Client ID: **Post-AST-1**
Site: Hexcel Pilot Test

Lab Sample No: **66699**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: E2100.D

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Acetone	5.89	6.7	
2.	C10H22 Alkane/C9H12 Aromatic	15.14	4.3	
3.	Benzene, 1,4-dichloro-/C9H12 Aromatic	16.08	3.0	
4.	Benzene, 1,2-dichloro-	16.50	5.7	
5.	Unknown	16.80	3.2	
6.	Benzene, (2-chloroethyl)-	17.43	5.8	
7.	Unknown	17.93	79	
8.	Benzene, bromoethyl-	18.57	21	
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION | 129

Client ID: **Post-AST-2**
Site: Hexcel Pilot Test

Lab Sample No: **66700**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: e2101.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	0.9
Bromomethane	ND	0.3
Vinyl Chloride	ND	0.4
Chloroethane	ND	1.0
Methylene Chloride	2.4	1.0
Trichlorofluoromethane	ND	0.2
1,1-Dichloroethene	ND	0.6
1,1-Dichloroethane	ND	0.3
trans-1,2-Dichloroethene	ND	0.3
cis-1,2-Dichloroethene	1.4	1.0
Chloroform	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.2
Carbon Tetrachloride	ND	0.2
Bromodichloromethane	ND	0.2
1,2-Dichloropropane	ND	0.5
cis-1,3-Dichloropropene	ND	0.3
Trichloroethene	ND	0.4
Dibromochloromethane	ND	0.2
1,1,2-Trichloroethane	ND	0.4
Benzene	ND	0.2
trans-1,3-Dichloropropene	ND	0.3
2-Chloroethyl Vinyl Ether	ND	0.5
Bromoform	ND	0.3
Tetrachloroethene	1.3	0.1
1,1,2,2-Tetrachloroethane	ND	0.3
Toluene	0.2	0.2
Chlorobenzene	0.6	0.1
Ethylbenzene	ND	0.2
Xylene (Total)	ND	1.0

Client ID: **Post-AST-2**
Site: Hexcel Pilot Test

Lab Sample No: **66700**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: E2101.D

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Acetone	5.92	6.5	
2.	Unknown	17.94	27	
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION: 34

Client ID: **Pre-Carbon-1**
Site: Hexcel Pilot Test

Lab Sample ID: **66701**
Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Date Extracted: 10/23/96
Date Analyzed: 10/26/96
GC Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 1000 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Lab File ID: zr016239.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	0.20
Aroclor-1221	ND	0.40
Aroclor-1232	ND	0.10
Aroclor-1242	2.6	0.40
Aroclor-1248	ND	0.30
Aroclor-1254	ND	0.40
Aroclor-1260	ND	0.10

Client ID: **Post-Carbon-1**
Site: Hexcel Pilot Test

Lab Sample No: **66702**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-29-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: e2140.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	0.9
Bromomethane	ND	0.3
Vinyl Chloride	ND	0.4
Chloroethane	ND	1.0
Methylene Chloride	160	1.0
Trichlorofluoromethane	ND	0.2
1,1-Dichloroethene	ND	0.6
1,1-Dichloroethane	ND	0.3
trans-1,2-Dichloroethene	ND	0.3
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.2
Carbon Tetrachloride	ND	0.2
Bromodichloromethane	ND	0.2
1,2-Dichloropropane	ND	0.5
cis-1,3-Dichloropropene	ND	0.3
Trichloroethene	ND	0.4
Dibromochloromethane	ND	0.2
1,1,2-Trichloroethane	ND	0.4
Benzene	ND	0.2
trans-1,3-Dichloropropene	ND	0.3
2-Chloroethyl Vinyl Ether	ND	0.5
Bromoform	ND	0.3
Tetrachloroethene	ND	0.1
1,1,2,2-Tetrachloroethane	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.1
Ethylbenzene	ND	0.2
Xylene (Total)	ND	1.0

Client ID: **Post-Carbon-1**
Site: Hexcel Pilot Test

Lab Sample No: **66702**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-29-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: E2140.D

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Acetone	5.95	27	
2.	Isopropyl Alcohol	6.14	5.1	
3.	2-Butanone	8.41	10	
4.	C4H10O Alcohol	8.61	7.6	
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION: 50

Client ID: **Post-Carbon-1**
Site: Hexcel Pilot Test

Lab Sample ID: **66702**
Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Date Extracted: 10/23/96
Date Analyzed: 10/26/96
GC Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 1000 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Lab File ID: zr016240.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	0.20
Aroclor-1221	ND	0.40
Aroclor-1232	ND	0.10
Aroclor-1242	ND	0.40
Aroclor-1248	ND	0.30
Aroclor-1254	ND	0.40
Aroclor-1260	ND	0.10

Client ID: **Post-Carbon-2**
Site: Hexcel Pilot Test

Lab Sample ID: **66703**
Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Date Extracted: 10/23/96
Date Analyzed: 10/26/96
GC Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 1000 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Lab File ID: zr016241.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	0.20
Aroclor-1221	ND	0.40
Aroclor-1232	ND	0.10
Aroclor-1242	ND	0.40
Aroclor-1248	ND	0.30
Aroclor-1254	ND	0.40
Aroclor-1260	ND	0.10

Client ID: **H-1**
Site: Hexcel Pilot Test

Lab Sample No: **66705**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: e2102.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	0.9
Bromomethane	ND	0.3
Vinyl Chloride	ND	0.4
Chloroethane	ND	1.0
Methylene Chloride	1.1	1.0
Trichlorofluoromethane	ND	0.2
1,1-Dichloroethene	ND	0.6
1,1-Dichloroethane	ND	0.3
trans-1,2-Dichloroethene	ND	0.3
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.2
Carbon Tetrachloride	ND	0.2
Bromodichloromethane	ND	0.2
1,2-Dichloropropane	ND	0.5
cis-1,3-Dichloropropene	ND	0.3
Trichloroethene	ND	0.4
Dibromochloromethane	ND	0.2
1,1,2-Trichloroethane	ND	0.4
Benzene	ND	0.2
trans-1,3-Dichloropropene	ND	0.3
2-Chloroethyl Vinyl Ether	ND	0.5
Bromoform	ND	0.3
Tetrachloroethene	3.4	0.1
1,1,2,2-Tetrachloroethane	ND	0.3
Toluene	ND	0.2
Chlorobenzene	0.3	0.1
Ethylbenzene	ND	0.2
Xylene (Total)	ND	1.0

ENVIROTECH RESEARCH, INC.

Client ID: **H-1**
Site: Hexcel Pilot Test

Lab Sample No: **66705**
Lab Job No: Q757

Date Sampled: 10-22-96
Date Received: 10-22-96
Date Analyzed: 10-27-96
GC Column: DB624
Instrument ID: VOAMS5
Lab File ID: E2102.D

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Isopropyl Alcohol	6.07	8.3	
2.				
3.				
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TOTAL ESTIMATED CONCENTRATION 8.3

Client ID: **H-1**
Site: Hexcel Pilot Test

Lab Sample ID: **66705**
Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Date Extracted: 10/23/96
Date Analyzed: 10/23/96
GC Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 970 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Lab File ID: zr016183.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	0.20
Aroclor-1221	ND	0.40
Aroclor-1232	ND	0.10
Aroclor-1242	ND	0.40
Aroclor-1248	ND	0.30
Aroclor-1254	ND	0.40
Aroclor-1260	ND	0.10

Site: Hexcel Pilot Test

Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Matrix: WATER

Date Analyzed: 10/24/96
QA Batch: 1137

TOTAL SUSPENDED SOLIDS

Envirotech Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
66698	H-2	1.0	167
66705	H-1	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l for an undiluted sample.

Site: Hexcel Pilot Test

Lab Job No: Q757

Date Sampled: 10/22/96
Date Received: 10/22/96
Matrix: WATER

BOD

Envirotech Sample #	Client ID	Analytical Result Units: mg/l
66705	H-1	50

ENVIROTECH RESEARCH INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (908) 549-3900 Fax: (908) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Robert Shusko	R. Shusko	Heico, Lodi Quote #: 60 3086
Company	**P.O. #**	**State (Location of site)** NJ: ☑ NY: ☐ Other:
GEO Engineering	94034 T3	**Regulatory Program:**
Address	**Analysis Turnaround Time**	
150 Mineral Spring Dr.	Standard ☑	
City / State / Zip	Rush Charges Authorized For:	
Dover NJ 07801	2 Week ☐	
Phone / Fax	1 Week ☐	
201-361-3600 / 201-361-3800	Other ☑ (H-1 24hr TAT)	

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: Q757

Sample Identification	Date	Time	Matrix	No. of Cont.	VOA's	PCB's 608 **	BOD	TSS	Fe	Phenols (6041)	BNA	Sample Numbers
H-2	10/22/96	0920	Aqu	8	X	X		X	X	X	X	66698
Post AST 1	10/22/96	0935	Aqu	3	X							66699
Post AST 2	10/22/96	1045	Aqu	3	X							66700
Pre carbon #1	10/22/96	1050	Aqu	1		X						66701
Post carbon #1	10/22/96	1115	Aqu	4	X	X						66702
Post carbon #2	10/22/96	1125	Aqu	1		X						66703
Effluent *	10/22/96	1130	Aqu	1		X						66704
H-1 (rush 24hr TAT)	10/22/96	1145	Aqu	6	X	X	X	X				66705

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH 6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions: * Please hold until notified by GEO. ** Perform clean-up on 608 includes 3620 3640 3665

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1)	GEO Engineering	10/23/96 11:15	1)	Envirotech
2) STUART DALLEY ENVIROTECH RESEARCH		10/24/96 16:00	2)	Envirotech
3)			3)	
4)			4)	

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